

PROPEL: The National Center for Precision Medicine

AN EDA TECH HUB UPDATE

March 2024

EDA Tech Hub Basics

October 2023: Received Designation status



Phase 2 Implementation Award Basics

➤ **29 Feb 2024: Project Proposal Submitted**



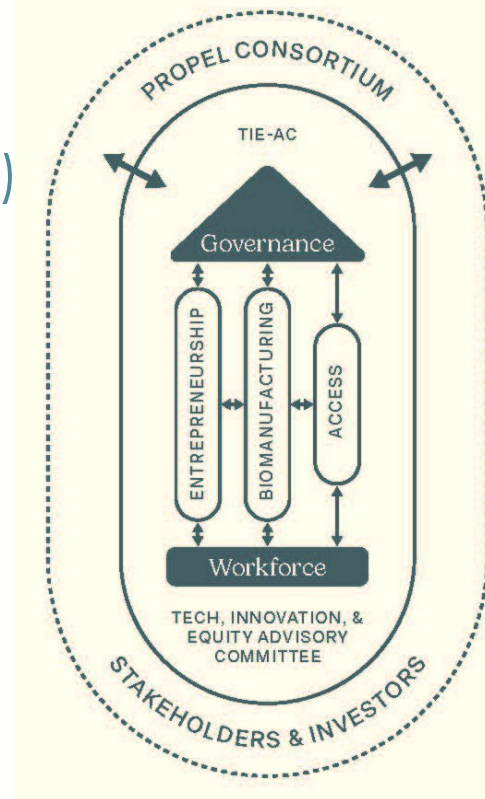
➤ **Key Elements**

- Designation status awarded to 31 regions
 - 11 are health related
- 5-10 are expected to be approved
- \$541M has been appropriated. EDA expects average award is \$45M if 10 Hubs approved.
- Award notifications over summer; if successful, start date = 01 September

Phase 2 Implementation Award Elements

Key Elements of our Proposal

- Covers Greater Philadelphia Region (PA, DE, NJ)
- Five Component Projects
 - Governance, Biomanufacturing, Workforce, Access and Entrepreneurship
- Major focus on Cyber and Risk Management
- Build global competitiveness over 10 years
- Over 100 regional partners



Hub Partners

Lead Member and Project Leads Ben Franklin Technology Partners of Southeastern PA | Delaware Innovation Space | Drexel University | HealthShare Exchange | Philadelphia Works | Tech Council of Delaware | University of Delaware/NIIMBL | Virtua Health

Partners with Committed Matching Funds BioPhy | Children's Hospital of Philadelphia | City of Philadelphia | Commonwealth of Pennsylvania Department of Community & Economic Development | Drexel University | State of Delaware

Institutions of Higher Education Community College of Philadelphia | Delaware County Community College | Delaware State University (HBCU) | **Drexel University** | Lincoln University (HBCU) | Rowan University | Rutgers-Camden University | Temple University | Thomas Jefferson University | University of Pennsylvania

State & Local Government City of Philadelphia | City of Philadelphia Department of Commerce | Commonwealth of Pennsylvania | Delaware Division of Small Business | Economic Development Departments of Bucks, Chester, Delaware & Montgomery Counties | New Jersey Economic Development Agency | State of Delaware

Industry or Firms in Relevant Technology, Innovation, or Manufacturing Sectors 3.0 University Place | Amazon Web Services | B.Labs | BioLabs | BioNJ | BioPhy | Brandywine Realty Trust | Cambridge Innovation Center | Center for Breakthrough Medicine | Children's Hospital of Philadelphia | ChristianaCare Health | Delaware BioScience Association | EMSCO | Helaplex | Lifesciences PA | Independence Blue Cross | Jefferson Health System | Johnson&Johnson Innovation | Main Line Health | Mobilion | Nemours Children's Health | NextFab | PA Biotech Center | Partners for a Cure | Penn Medicine | Pennovation Center | Philadelphia Coalition for a Cure | PIER Clinical Trial Consortium | Spark/Roche | Temple Medicine | ThermoFisher | **Virtua Health** | Wexford Science & Technology

Organizations Focused on Improving Science, Technology, Innovation, Entrepreneurship, or Access to Capital Baruch S. Blumberg Institute | Christiana Gene Editing Institute | **Delaware Innovation Space** | **HealthShare Exchange** | Mentor Connect | NSF I-Corps (Northeast Hub) | PACT- Philadelphia Alliance for Capital and Technologies | Wistar Institute

Workforce Training Organizations Jefferson Institute for Bioprocessing | **Philadelphia Works** | **Tech Council of Delaware** | Wistar Institute Biotechnology Training Program

Economic Development Entities Greater Philadelphia Chamber of Commerce | Delaware Prosperity Partnership | Federal Reserve Bank of Philadelphia | Philadelphia Industrial Development Corporation (PIDC) | University City Science Center

Organizations Contributing to Increased Participation of Underrepresented Groups in STEM Coded by Kids/1Philadelphia | Knight Foundation | Philadelphia Equity Alliance | STEM Equity Alliance | West Philadelphia STEM Academy | Zipcode Wilmington

Venture Development Organization **Ben Franklin Technology Partners of Southeastern PA**

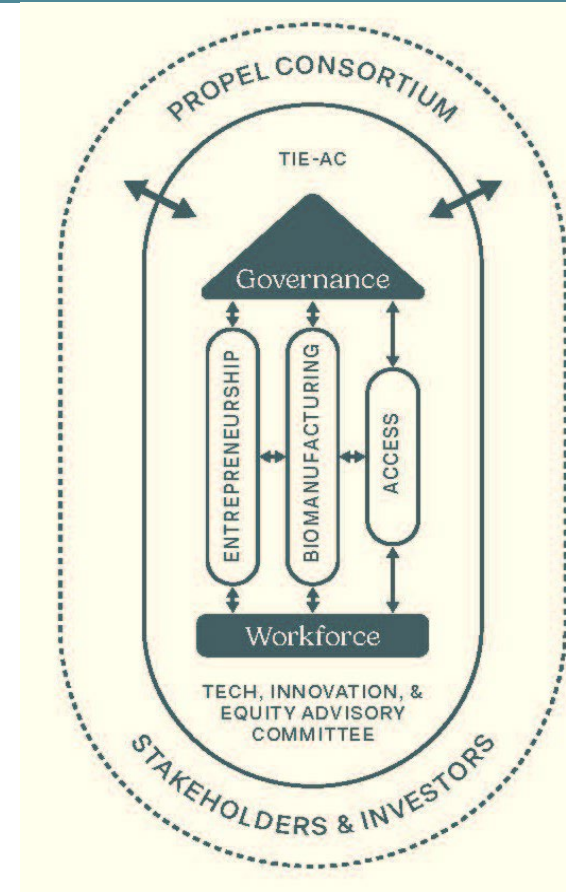
Manufacturing Extension Centers DVIRC-Delaware Valley Industrial Resource Center | New Jersey Manufacturing Extension Program

Manufacturing USA Institute **University of Delaware/NIIMBL**

Phase 2 Implementation Award Elements

Key Elements of our Proposal

- Total Budget = \$80M/5 years
 - \$71M from EDA, \$9M in matching funds
 - **DCED/PA (\$5M), Delaware (\$1M), City of Philadelphia (\$1M)**
 - Others (\$2M)
- Proposals look beyond 5-year funding to 10-year horizon
- Projecting 7,500 new, high-paying, sustainable jobs.
- Over 5 years, translates to >20,000 total jobs, earnings of \$2B and over \$175M in taxes.



Phase 2 Implementation Proposal--Status



29 March: EDA will send a “Clarifying Questionnaire” to the Hub



04 April: Response to Questionnaire due



12 April: “Virtual” Site Visit from EDA

1 Hour follow-up Q&A

30 minute “spotlight” presentation

30 minutes with RIO

Phase 2 Implementation Proposal--Contents

Project Narrative

- Exec Summary
- Vision Statement
- Consortia members, partners and commitments
- Component Project Summary

Global Competitiveness Summary
Desired Outcomes Summary
Equity—DEIA Summary
Climate and Environmental
Considerations

Technical Problem Statement

Global Competitive Advantage

Private Sector

Public, Philanthropic, and Non-Profit Participation

Sustainability Plan

Labor Participation

Equity

Evaluation Plan

Housing Considerations

Phase 2 Implementation Proposal--Contents

➤ Risk Management

- Cybersecurity Risk
- Critical Infrastructure Security Risk
- Intellectual Property and Technology Control Risk
- Personnel Security Risk
- Investment Security Risk
- Supply Chain Risk
- Ethical and Legal Risk
- Technical and Market Risk



What is “Precision Medicine?”

Precision Medicine, also called personalized medicine, is a modern healthcare approach that considers each person's unique genes, surroundings, and lifestyle when providing medical treatment.

Examples: Cell & Gene Therapy
 Gene Editing (CRISPR)
 “Plug-and-Play” Vaccines

Phase 2 Implementation Proposal

WHAT ARE WE DOING?

- Finalizing Steering Committee
- Aligning Communications Strategies
- Testifying at state and local hearings
- Continuing to engage new partners
- Solidifying outside commitments
- Preparing for EDA Site Visit
- Making Hub work and background publicly available ([link to page](#))

10-year Vision, Mission, & Goals

End-to-End Precision Medicine

PROPEL will accelerate the promises of Precision Medicine by leveraging the dynamic life science and health assets resident within the Greater Philadelphia Region.

The region possesses **all five fully integrated pillars** necessary for global competitiveness and lays the foundation for the region to become a Living Laboratory:

- Technology—what is created here can stay here.
- Commercialization—we can make it here.
- Access—we can test it here, validate it here and deploy it here.
- Workforce—we can train people here and keep them here.
- Space—build companies here and keep them here.

Why Here, Why Now?

What do these advances have in common? They were all created, developed and deployed in the Greater Philadelphia Region.

Late 1990s: University of Pennsylvania technology lays groundwork for mRNA-based vaccine technologies

2012: University of Pennsylvania uses CAR-T therapy to cure childhood leukemia

2017: Spark Therapeutics receives first FDA approval for gene therapy

2022: ChristianaCare spin-out CorriXR advances lung squamous-cell carcinoma gene editing

2022: Temple University trials using CRISPR technology for HIV cure

2022: Christiana Care, Drexel University, and University of Pennsylvania demonstrate hypertension treatment benefits in diverse trial

2023: The National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL) at the University of Delaware launches a program for economically viable shared manufacturing and analytical platforms for AAV gene therapy vectors

2023: Wistar/UPenn scientists pioneer universal blood cancer immunotherapy

2024: Children's Hospital of Philadelphia cures childhood deafness through gene therapy

2024: FDA approves lovance's gene therapy treatment for melanoma manufactured at the Philadelphia Navy Yard

2024: PROPEL Tech Hub is established to advance technologies that reach communities and individuals in the Greater Philadelphia Region

Project Summaries

Component	Lead
Overarching Narrative	Ben Franklin
Project 1: Governance	Ben Franklin
Project 2: Biomanufacturing	UDel/NIIMBL
Project 3: Workforce	Philadelphia Works & Tech Council of Delaware
Project 4: Access	Healthshare Exchange & Virtua Healthcare & Drexel U
Project 5: Entrepreneurship	Delaware Innovation Space & Ben Franklin

Project 1 Summary: Governance

GOAL & Key Elements	Leads, engages, and integrates members; executes hub's mission and vision; fosters community culture; influences policy; executes governance, oversight, operations, communication; evaluates policies; creates organizational MOU; establishes go/no-go policies; supervises risk management.
Progress to Date	<ul style="list-style-type: none">• Completed Governance Document; developing Operating/MOU document (PROPEL).• Identified and secured core Steering Committee members and planning to recruit other members, including project leads and John Swartley, CIO of the University of Pennsylvania.• Secured diverse inaugural Technology, Innovation and Equity Advisory Committee.• Developing appropriate sub-governance documents and policies.• Completed identification of five projects, identified project leads and Regional Innovation Officer (RIO), and completed project elements to assure integration among all projects.• Identified gaps and added new programmatically and regionally important stakeholders.• Held regular, successful stakeholder meetings among all designation supporters to assure continued engagement, regardless of funding to those supporters.• Continue to secure financial, match and programmatic commitments.• Engaged corporate and venture partners from across the region and beyond.

Project 2 Summary: Biomanufacturing

GOAL & Key Elements	Improves capacity to train diverse biomanufacturing workforce (aligning with Workforce project); advances technologies and processes to improve speed-to-market in the sector.
Progress to Date	<ul style="list-style-type: none">• Will establish a network of “hard” sites for training/development as well as one mobile “soft” site. Training programs synergize with Workforce Project.• One of the hard sites is planned for Montgomery County Community College; additional hard sites to be determined at a later date (with a preference that one of them be located at a minority serving institution or historically black college or university).• Will establish a Project Call program to demonstrate and scale-up promising biomanufacturing technologies. Those projects may request to access space at a hard site for the work. Projects will receive non-dilutive funding to advance technologies.• Project Call expected to run once a year. Successful projects from the Entrepreneurship Project could mature into Biomanufacturing Program.

Project 3 Summary: Workforce

GOAL & Key Elements	Expands or creates programs for a diverse, technically trained workforce; connects with K–12 schools, community colleges, regional HBCUs, and underemployed citizens for careers in the life sciences and precision medicine; partners with other workforce programs and labor unions.
Progress to Date	<ul style="list-style-type: none">➤ Workforce Center for Precision Medicine: The WCPM will function similarly to a talent agency to develop a skilled hub-based workforce to fill vacancies and meet employer needs. The WCPM will: 1) provide career exploration and discovery for youth and adults; 2) use inclusive marketing and recruitment strategies to attract and connect underserved and underrepresented populations to life sciences careers via earn-and-learn/temp-to-perm training programs; and 3) embed wraparound and supportive services.➤ Employer Outreach & Interest Survey➤ Employer Letters of Support

Project 4 Summary: Access

GOAL & Key Elements	<p>Access aims to accelerate the development, testing and commercialization of precision medicines by creating a research, data sharing and community network that:</p> <ul style="list-style-type: none">• Amplifies the strengths of our region’s institutions through collaboration.• Addresses inefficiencies and inequities in research design and execution.• Prepares our region for future public health emergencies through cooperation.• Creates a competitive environment that grows and retains jobs, for a diverse workforce, in data science, health research and artificial intelligence.
Progress to Date	<p>Research Network: Led by PIER Consortium, the PROPEL Research Network provides common governance, an IRB framework and operational expertise to conduct multi-site clinical research studies as well as training and capacity building for new network sites.</p> <p>Data Network: Led by HSX and CHOP, the PROPEL Data Network creates a multi-modal data sharing platform that leverages existing real-time health data monitoring and surveillance tools to facilitate effective cooperation and coordination of research institutions, health systems and government agencies.</p> <p>Community Network: Led by Drexel University and Virtua, the PROPEL Community Network provides engagement and training to improve equitable access to precision medicine research opportunities in historically underserved parts of our region.</p>

Project 5 Summary: Entrepreneurship

GOAL & Key Elements	Increases efficiency for commercialization of new technologies through access to specialized resources—e.g., help with technical/manufacturing challenges, clinical trial/regulatory assistance, mentoring company management teams for growth; diversifying and growing founders and company management teams and corporate and venture network.
Progress to Date	<ul style="list-style-type: none">• Project Management: Delaware Innovation Space (program lead) & Ben Franklin Technology Partners of SE PA (contracting/reporting lead)• Preliminary staffing plan with roles & responsibilities identified• Letter of commitments for support from 22 organizations• Three strategic pillars for program (overall budget of \$23.3m):<ul style="list-style-type: none">○ Propel Fund: matching grants up to \$500k (\$14m over 5-years)○ Accelerator & Mentorship Network○ Investor Network & hosting Precision Medicine Showcase Events• Key Outcomes & Outputs identified<ul style="list-style-type: none">○ Diverse Patient Impact – increasing and diversifying indications targeted○ Diverse & Inclusive Job Growth – significantly grow jobs○ Drive investment – fund matching grants and drive follow-on funding

Stakeholder Asks

- Continued advocacy for the Hub
 - Do NOT contact EDA
 - DO contact your local legislators
 - DO sign [this petition](#) to Congress
- Hub project is not fixed: There will be opportunities to engage down the road
- Help with non-Federal support opportunities to ensure sustainability beyond 5-year funding period