



U.S. National Science Foundation
Regional Innovation Engines

NSF ENGINES

FACT SHEETS

NSF ENGINES FACT SHEET



Catalyze and foster innovation in your region

Jumpstart your region's innovation ecosystem with up to \$160 million over 10+ years.

The U.S. National Science Foundation's [Regional Innovation Engines](#) (NSF Engines) program supports the development of diverse regional coalitions to catalyze and foster innovation ecosystems across the U.S. Each NSF Engine focuses on use-inspired research and development that creates new technologies, jobs and economic opportunities for national, societal and geostrategic impact. The program was launched in May 2022 by the U.S. NSF's Directorate for Technology, Innovation and Partnerships (TIP) and established in the "CHIPS and Science Act of 2022."

Goal of the NSF Engines program

The NSF Engines program envisions supporting multiple flourishing regional innovation ecosystems across the U.S., spurring economic growth in regions that have not fully participated in the technology boom of the past few decades.

Who can apply?

The NSF Engines program encourages regional teams of innovators and ecosystem builders from industry, higher education, nonprofit, tribal nations and state and local governments interested in catalyzing and fostering technology translation and development to form regional coalitions and submit proposals aimed at building innovation ecosystems across the U.S. This round of funding is an open competition with no prerequisite of having been funded by NSF programs previously. 60% of NSF Engines awardees include partners who are new to NSF funding.

Pending congressional appropriations, the NSF Engines program aims to add additional regions to the 10 inaugural awardees announced earlier this year, expanding innovation potential across the U.S.

NSF Engines funding amount:

Up to \$160 million in funding for up to 10 years.

Check out our website:

<https://new.nsf.gov/funding/initiatives/regional-innovation-engines>



SUBSCRIBE FOR UPDATES

We invite you to sign up for our newsletter to learn more about the NSF Engines program.

Email Subscription:
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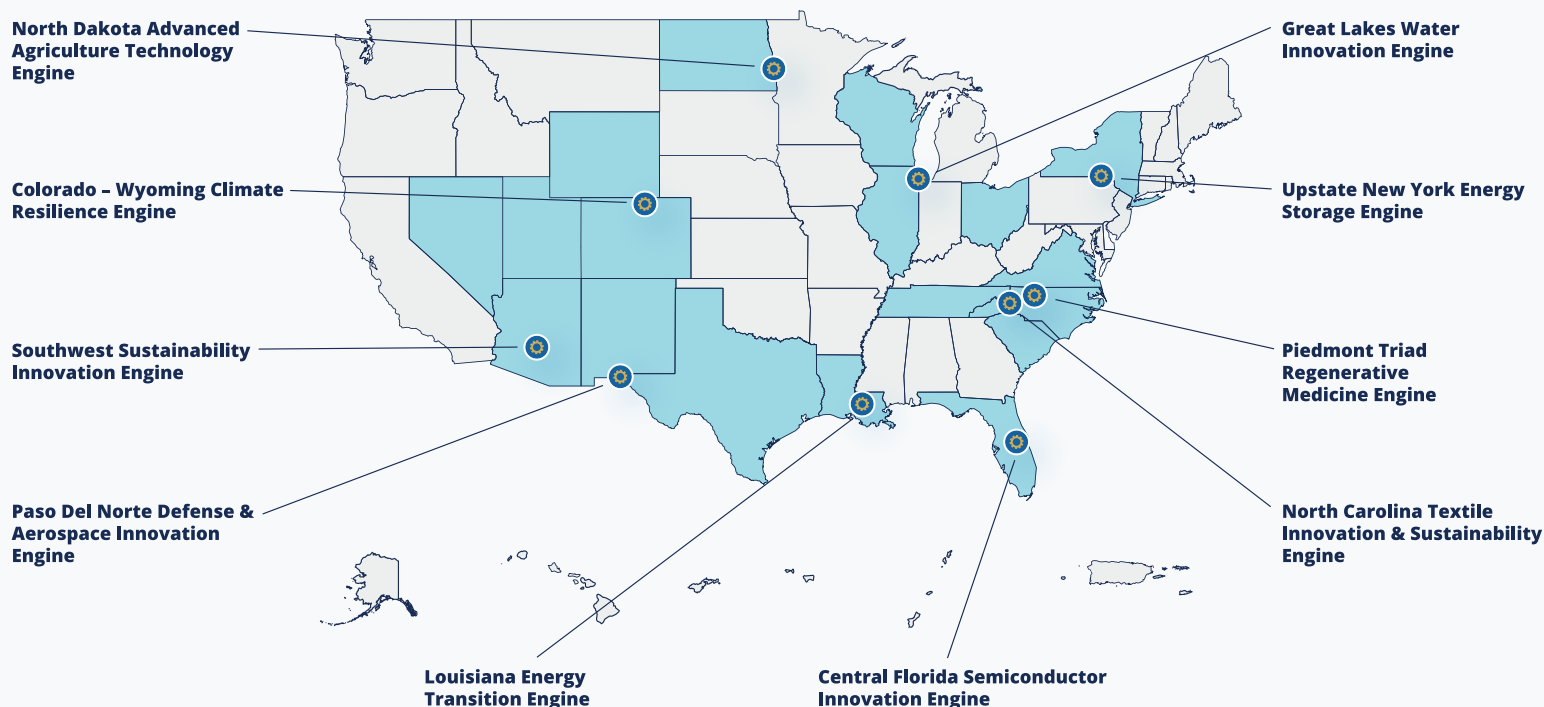
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Email us questions:
engines@nsf.gov

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TEN INAUGURAL NSF ENGINES



Central Florida Semiconductor Innovation Engine *Florida*

Led by International Consortium for Advanced Manufacturing Research (ICAMR, Inc.) (doing business as BRIDG), aims to play a critical role in supporting the nation's capability for semiconductor advanced packaging design and manufacturing, rooting a vital industry on American shores and securing national defense.

Colorado-Wyoming Climate Resilience Engine *Colorado and Wyoming*

Led by Rocky Mountain Innovation Initiative Inc., aims to advance the region's research and commercialization efforts focused on sensing, monitoring and predictive analytic technologies for climate resiliency spanning methane emissions, soil carbon capture, earth sensing, water scarcity, wildfires and extreme weather.

Great Lakes Water Innovation Engine *Illinois, Ohio and Wisconsin*

Led by Current Innovation NFP, aims to discover, develop and deploy innovative key technologies that attract water-intensive manufacturers to the region, recover valuable energy and mineral resources from wastewater streams, and foster workforce opportunities, all while maintaining environmental health.



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<https://new.nsf.gov/funding/initiatives/regional-innovation-engines>

Louisiana Energy Transition Engine *Louisiana*

Led by Louisiana State University, aims to enable a clean energy transition for the state by advancing research and commercialization efforts in the areas of carbon capture, the use of hydrogen as an alternative fuel, carbon dioxide as a feedstock, and sustainable water and sustainable manufacturing for clean energy to promote pathways to decarbonization across the state of Louisiana.

Paso del Norte Defense and Aerospace Innovation Engine *New Mexico and Texas*

Led by The University of Texas at El Paso, aims to fuel the growth of dynamic aerospace and defense manufacturing in Paso del Norte, an eight-county region on the U.S.-Mexican border, by creating a platform that combines an emerging digital engineering paradigm and skilled workforce development.

Piedmont Triad Regenerative Medicine Engine *North Carolina and South Carolina*

Led by the Wake Forest University School of Medicine, aims to cultivate breakthroughs in health care by providing the resources necessary to accelerate the transition of use-inspired regenerative medicine technologies into commercial products. Growth in this industry will help address long-term challenges related to retraining and upskilling the local workforce by developing a technical infrastructure for historically Black colleges and universities in the region to reduce disparities for underrepresented groups in science, technology, engineering and math fields.

North Carolina Textile Innovation and Sustainability Engine

North Carolina, South Carolina, Tennessee and Virginia

Led by The Industrial Commons, aims to advance the nation's capacity for environmentally sustainable textiles by advancing smart textiles and wearable technology, reducing carbon outputs and the number of textiles in landfills, and nurturing the development of new product lines that use circular methods.

North Dakota Advanced Agriculture Technology Engine *North Dakota*

Led by North Dakota State University, aims to create resilient and secure food systems in North Dakota by combining advanced genomics, climate modeling, nanoscale sensors and computer networks to monitor and improve the growth of crops via strong networks of stakeholders across the state — including bringing tribal, rural and farming communities intentionally and meaningfully into the process of co-creating a blueprint for the future of agriculture and workforce development.

Southwest Sustainability Innovation Engine *Arizona, Nevada and Utah*

Led by Arizona State University, aims to equitably transform water security, renewable energy and net carbon emissions in the region by incentivizing new technology and governance, expanding infrastructure and capacity for knowledge translation, and preparing a diverse and highly skilled workforce.

Upstate New York Energy Storage Engine *New York*

Led by Binghamton University, aims to establish a tech-based, industry-driven hub for new battery componentry, safety testing and certification, pilot manufacturing, applications integration, workforce development and energy storage, including through material sourcing and recovery.

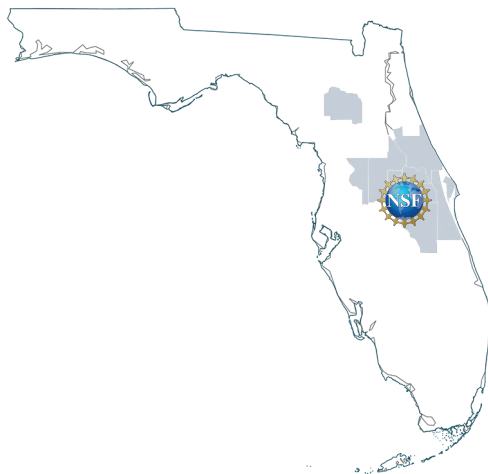
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CENTRAL FLORIDA SEMICONDUCTOR INNOVATION ENGINE

NSF AWARD: NSF - 2315320

Central Florida Semiconductor Innovation Engine (Florida), led by the International Consortium for Advanced Manufacturing Research (ICAMR, Inc.) (doing business as BRIDG), aims to play a critical role in supporting the nation's capability for semiconductor advanced packaging design and manufacturing, rooting a vital industry on American shores and securing national defense.



10 Distinct Partners. A few sample partner organizations:

Academics (3)	University Of Central Florida
Government Entities (1)	Osceola County
Industry (1)	Skywater Technology
Non-Profit (5)	Orlando Economic Partnership

Lead organization:

International Consortium for Advanced Manufacturing Research (ICAMR, Inc.)
(doing business as BRIDG — economic development organization).

Region of service:

Osceola County, Florida, and surrounding counties (Central Florida).

Competitive advantage:

Over the last eight years, Osceola County, Florida, had the foresight to make key strategic investments in semiconductor talent pipelines, develop industry partnerships with global leaders in the semiconductor industry, and build an unprecedented county-owned fabrication facility on a green industrial park with space to grow. Today, the region has developed a physical infrastructure and talent advantage in an emerging subfield in the semiconductor technology sector focused on advanced semiconductor packaging, which is essential to computational computing, quantum computing, artificial intelligence and other highly complex and computationally-intensive technologies.

Key Technology Areas:

Advanced computing and semiconductors, advanced materials, advanced communications, advanced energy and industrial efficiency technologies, artificial intelligence, data and cybersecurity, robotics and advanced manufacturing, quantum information science and technology.

<https://fuelouisiana.org/>

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PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315320

BRIDG	SkyWater
CareerSource	University of Central Florida
Central Florida Florida High Tech Corridor	University of Florida
Imec	Valencia College
Orlando Economic Partnership	
Osceola County	

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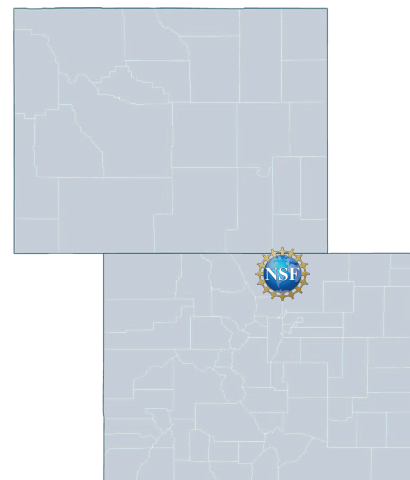
COLORADO-WYOMING CLIMATE RESILIENCE ENGINE

NSF AWARD: NSF - 2315760

Colorado–Wyoming Climate Resilience Engine (Colorado and Wyoming), led by Rocky Mountain Innovation Initiative Inc. (d/b/a Innosphere Ventures), aims to advance the region's research and commercialization efforts focused on sensing, monitoring and predictive analytic technologies for climate resiliency spanning methane emissions, soil carbon capture, earth sensing, water scarcity, wildfires and extreme weather.

45 Distinct Partners. A few sample partner organizations:

Academics (9)	University of Wyoming
Government Entities (12)	National Renewable Energy Laboratory
Industry (12)	Chevron
Non-Profit (12)	Denver Metro Chamber Of Commerce



Lead organization:

Rocky Mountain Innovation Initiative, Inc. (doing business as Innosphere Ventures)

Region of service:

Colorado and Wyoming (entire states).

Competitive advantage:

The states of Colorado and Wyoming have borne the brunt of several climate emergencies, from unprecedented wildfires to devastating droughts and heatwaves. Meanwhile, the region has a robust startup ecosystem and research capacity in its universities with deep expertise in fields and technologies central to climate resiliency, including monitoring technologies to advance methane emissions analysis, soil carbon capture data and analytics, Earth sensing, water availability predicting, wildfire risk/prediction and extreme weather modeling. Furthermore, both Colorado and Wyoming's governors have made this NSF Engine's success and the subsequent climate resiliency capabilities a major part of their agenda. As climate resiliency becomes an increasingly critical global industry, both states have the expertise, government support and urgent incentives within their own states to become national leaders in the sector.

Key Technology Areas:

Disaster prevention and mitigation, advanced materials, advanced energy and industrial efficiency technologies, artificial intelligence, data and cybersecurity, robotics and advanced manufacturing.

<https://co-wyengine.org>

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PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315760

Activate Global Inc.	Denver Water	Rocky Mountain Innovation Initiative Inc. (dba Innosphere Ventures)
Breakthrough Energy	High Plains American Indian Research Institute (HPAIRI) at University of Wyoming	Shell International Exploration and Production Inc
Chevron	ICLEI - Local Governments for Sustainability U.S.A., Inc.	State of Wyoming
City and County of Denver, Colorado	Lockheed Martin	State of Wyoming - Wyoming Business Council
City of Boulder, Colorado	Mars, Inc.	The MITRE Corporation
City of Fort Collins, Colorado	Metro Denver Economic Development Corporation	Third Derivative
Clean Air Task Force	Metropolitan State University of Denver	Trimble
CO-LABS, Inc.	National Center for Atmospheric Research (NCAR)	U.S. Department of Agriculture - Agriculture Research Service (ARS)
Colorado Cleantech Industries Association (CCIA)	National Institute of Standards and Technology (NIST)	University of Colorado at Denver
Colorado Community College System	National Oceanic and Atmospheric Administration (NOAA)	University of Colorado Boulder
Colorado Higher Education Competitive Research Authority (CHECRA)	National Renewable Energy Laboratory (NREL)	University of Northern Colorado
Colorado Office of Economic Development and International Trade (OEDIT)	NSF's National Ecological Observatory Network (NEON) - Battelle	University of Wyoming
Colorado School of Mines	NVIDIA Corporation	Wyoming Innovation Partnership
Colorado State University (CSU)	Palantir Technologies, Inc.	
Colorado State University STRATA	Rockies Venture Club (RVC)	
Deloitte Consulting LLP		
Denver Metro Chamber of Commerce		

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GREAT LAKES WATER INNOVATION ENGINE

NSF AWARD: NSF - 2315268

Great Lakes Water Innovation Engine (Illinois, Ohio and Wisconsin), led by Current Innovation NFP, aims to discover, develop and deploy innovative key technologies that attract water-intensive manufacturers to the region, recover valuable energy and mineral resources from wastewater streams, and foster workforce opportunities, all while maintaining environmental health.

59 Distinct Partners. A few sample partner organizations:

Academics (17)

Government Entities (6)

Industry/Investors (23)

Non-Profit (13)

University of Chicago

Argonne National Laboratory

Illinois Ventures, Exelon Corporation

Cleveland Water Alliance



Lead organization:

Current Innovation NFP (nonprofit).

Region of service:

Illinois, Ohio and Wisconsin (anchor nodes in urban and rural areas).

Competitive advantage:

The Great Lakes Water Innovation Engine is geographically centered on an ecoregion that holds 90% of the fresh water in the United States. Forty million residents of the United States and Canada depend on this system for clean drinking water. Built on strong and evolving partnerships across academia, government and end users in industry and utilities, this NSF Engine aims to develop intelligent water resource recovery system testbeds at multiple scales (bench, pilot and full) to demonstrate, integrate and deploy these novel technologies to support sustainable water-intensive industry that is growing in this region.

Key Technology Areas:

Advanced energy and industrial efficiency technologies, advanced materials, artificial intelligence.

<https://greatlakesrenew.org>

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U.S. National Science Foundation's Regional Innovation Engines

PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315268

A.O. Smith Corporation

American Family Insurance
Institute

Argonne National Laboratory

Black & Veatch Corporation

Burnt Island Ventures

CARA Collective

Chicago State University

City Colleges of Chicago

Cleveland Water Alliance

Council on Adult & Experiential
Learning (CAEL)

Current Innovation, NFP

Discovery Partners Institute

Dow Chemical Company

Entrepreneurs' Center

Evergreen Climate Innovations

Exelon Corporation

Freshwater Advisors

Fund for our Economic Future

Further Faster Ventures, LLC

Green Bay Metropolitan Sewage
District

HIRE360

Illinois Institute of Technology

Illinois Science & Technology
Coalition

Illinois Ventures

Imagine H2O

Ingredion Corporation

Marquette University

Mazarine Ventures

Metropolitan Council
Environmental Services

Metropolitan Water Reclamation
District of Greater Chicago

mHUB

National Fund for Workforce

Solutions

Northwestern University

NSF iCorps Hub – Great Lakes
Region

Ohio State University

Oldcastle Infrastructure

ORS Impact

P33

Purdue University

Rapid Radicals Technology LLC

S2G Ventures

Sentry Equipment Corporation

State of Illinois Department of
Commerce and Economic
Opportunity

State of Ohio Office of the
Governor

TIES (Teaching Institute for
Excellence in STEM)

Tikal Filters, Inc.

True North Venture Partners

University of Chicago

University of Cincinnati

University of Illinois Chicago

University of Illinois Urbana
Champaign

University of Michigan

University of Minnesota

University of Wisconsin Milwaukee

Varuna Tech Inc.

Wayne State University

Whirlpool Corporation

Wisconsin Regional Training
Partnership

World Business Chicago

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LOUISIANA ENERGY TRANSITION ENGINE

NSF AWARD: NSF - 2315727

Louisiana Energy Transition Engine (Louisiana), led by Louisiana State University, aims to enable a clean energy transition for the state by advancing research and commercialization efforts in the areas of carbon capture, the use of hydrogen as an alternative fuel, carbon dioxide as a feedstock, and sustainable water and sustainable manufacturing for clean energy to promote pathways to decarbonization across the state of Louisiana.

50 Distinct Partners. A few sample partner organizations:

Academics (13)

Government Entities (5)

Industry (21)

Non-Profit (10)

Dillard University

Louisiana Economic Development

ExxonMobil, Shell

South Louisiana Economic Council



Lead organization:

Louisiana State University.

Region of service:

Louisiana (entire state).

Competitive advantage:

Louisiana is currently the global leader in carbon dioxide emissions per capita due to the strong presence of the hydrocarbon industry in the state, emitting 50 tons of CO₂ per year per capita. Because of this challenge, researchers, industry partners and public sector partners in the state are driving some of the most transformative efforts to enable a clean energy transition for the state as the nation and world work to meet aggressive goals to decarbonize. This NSF Engine has identified critical research and development topic areas that must be advanced to drive clean energy innovations and get closer to a net-zero carbon future. It will pursue those goals while cultivating an innovation ecosystem of tech companies that support the nation's transition to clean energy, while also driving economic growth through job creation and training opportunities in the clean energy sector.

Key Technology Areas:

Advanced energy and industrial efficiency technologies, advanced materials, artificial intelligence, disaster prevention and mitigation, robotics and advanced manufacturing.

<https://fuelouisiana.org/>

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PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315727

Baker Hughes

BASF

Baton Rouge Area Chamber

Bernhard Capital Partners

Callais Capital

CF Industries

Chevron

Crosby Land and Resources

Danos

Delta Land Services

Dillard University

Dow

ExxonMobil

Greater New Orleans, Inc. (Through
the Greater New Orleans
Development Foundation)

Hardline Consulting

Innovation Catalyst

Jarreau Private Equity Group

Jefferson Capital Partners

Louisiana Board of Regents

Louisiana Business Incubation
Association

Louisiana Chamber of Commerce
Foundation

Louisiana Community and
Technical College System

Louisiana Department of Natural
Resources

Louisiana Economic Development

Louisiana Mid-Continent Oil & Gas
Association

Louisiana State University

Louisiana Tech University

Louisiana Universities Marine
Consortium

LSU Foundation

LSU Small Business Development
Center

Nexus Louisiana Tech Park

Nicholls State University

One Acadiana

River Parishes Community College

Sabre Equity

Shell International Exploration and
Production Inc

South Louisiana Economic Council

Southern University Baton Rouge

Southern University of New
Orleans

Southern University Shreveport

State of Louisiana

TechInnoVent Advisors, LLC

The Hackett Group

Tulane University

University of Louisiana at Lafayette

University of Mississippi

University of New Orleans

West Baton Rouge Chamber of
Commerce

Worley

Xavier University

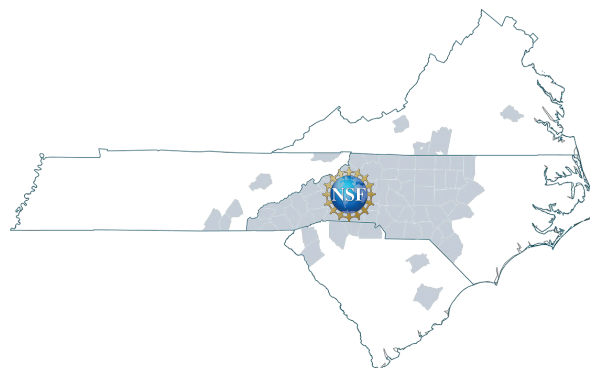
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NORTH CAROLINA TEXTILE INNOVATION AND SUSTAINABILITY ENGINE

NSF AWARD: NSF - 2315305

North Carolina Textile Innovation and Sustainability Engine (North Carolina, South Carolina, Tennessee and Virginia), led by The Industrial Commons, aims to advance the nation's capacity for environmentally sustainable textiles by advancing smart textiles and wearable technology, reducing carbon outputs and the number of textiles in landfills, and nurturing the development of new product lines that use circular methods.



56 Distinct Partners. A few sample partner organizations:

Academics (6)	Georgia Tech, NC State
Government Entities (8)	EPA
Industry (22)	AlchemyX, Elevate Textiles
Non-Profit (19)	Leaf Foundation
Other (1)	Appalachian Regional Commission

Lead organization:

The Industrial Commons.

Region of service:

Western North Carolina with parts of South Carolina, Tennessee and Virginia.

Competitive advantage:

Centered in the "textile belt" of North Carolina, this NSF Engine aims to disrupt and revolutionize the \$96 billion textile industry. While other regions of the U.S. have lost textile jobs, this region's textile industry has stabilized. The region boasts the largest concentration of textile workers in the U.S., with over 27,000 workers and an additional 30,000 in adjacent industries, such as waste streams and furniture workers, spanning almost 2,000 companies. This NSF Engine is led by The Industrial Commons, a nonprofit with a strong reputation within the textile sector and other fields for being a hub of regional, rural innovation with deep local, national and sectoral knowledge and relationships.

Key Technology Areas:

Advanced materials, advanced energy and industrial efficiency technologies, biotechnology, robotics and advanced manufacturing.

<https://nctise.org>

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U.S. National Science Foundation's Regional Innovation Engines

PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315305

AlchemyX	Office of Innovation	Tenowo Nonwovens
American Trützschler	NC Department of Environmental Quality	The Cannon Foundation
Anne Wiper Consulting	NC General Assembly	The Industrial Commons
Appalachian Regional Commission	NC IDEA	The Kendeda Fund
Bear Fiber	NC Innovation Foundation	Truetzschler
Carolina Textile District	NC Manufacturing Extension Partnership	TS Designs
Circ	NC Rural Economic Development Center, Inc.	UNIFI
Economic Development Partnership of North Carolina	North Carolina A & T State University	University of North Carolina at Greensboro
Elevate Textiles	North Carolina Department of Public Instruction	Valdese Weavers
Environmental Protection Agency (EPA)	North Carolina State University	VF Foundation
First Flight Venture Center	Opportunity Threads	Western Carolina Sew Co.
Gaston Community College, Gaston Textile Technology Center	Origin Materials	Western Piedmont Community College
Georgia Institute of Technology	Parkdale Mills	Western Piedmont Workforce Development Board
Golden Leaf Foundation	Project Repat	Work in Burke
J.M. Kaplan Fund	Rainy Pass	
Kimbrell Foundation	RTI International	
Leigh Fibers	Small Business and Technology Development Center (SBTDC)	
Manufacturing Solutions Center	Smartwool	
Material Return	Spiritex	
Meridian Specialty Yarn Group	Sustainable Furnishings Council	
National Spinning		
NC Department of Commerce		
NC Department of Commerce		

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NORTH DAKOTA ADVANCED AGRICULTURE TECHNOLOGY ENGINE

NSF AWARD: NSF - 2315315

North Dakota Advanced Agriculture Technology Engine (North Dakota), led by North Dakota State University, aims to create resilient and secure food systems in North Dakota by combining advanced genomics, climate modeling, nanoscale sensors and computer networks to monitor and improve the growth of crops via strong networks of stakeholders across the state — including bringing tribal, rural and farming communities intentionally and meaningfully into the process of co-creating a blueprint for the future of agriculture and workforce development.

65 Distinct Partners.

Academics (14)
Government Entities (8)
Industry (32)
Non-Profit (11)
Investors (5)

A few partner organizations:

United Tribes Technical College
North Dakota Governor's Office
BankNorth, Bayer
North Dakota Farmers Union
Bison Ventures Ecosystem



Region of service:

North Dakota (entire state).

Lead organization:

North Dakota State University.

Competitive advantage:

Nearly 90% of North Dakota is farm and ranchlands. Agriculture is the largest segment of the state's economy and is responsible for almost one-fourth of the state's employment. The North Dakota Advanced Agriculture Technology Engine will lead the transition to the next frontier of agricultural technology advances by bringing together a powerful ecosystem of partners with representation from the world's large agricultural companies, technology companies, farmers, universities, regional and statewide economic and workforce development organizations, tribal organizations and innovation testbeds. This NSF Engine's focus on combining advanced crop data, genetic data, climate modeling and sensor technologies will surpass the current state of practice and capabilities, changing approaches to the important challenge of sustainably feeding a nation and the world. Its intentional focus on public crops, historically underinvested but critically important food sources, will catalyze technological advances for climate-resilient crops like peas, edible beans, barley, canola, flax, oats and durum wheat.

Key Technology Areas:

Biotechnology, advanced computing and semiconductors, advanced materials, advanced communications, artificial intelligence, data and cybersecurity, disaster prevention and mitigation, robotics and advanced manufacturing.

<https://farmsfeedstheworld.com>

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PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315315

50 South Capital	Homegrown Capital	North Dakota State University Research and Technology Park
Adopt Agriculture Data Optimization	HudsonAlpha Institute for Biotechnology	North Dakota State University Research Foundation
AgCountry Farm Credit Services	Indigenise, LLC	North Dakota Tribal College System
Appareo Systems, LLC	John Deere Technology Innovation Center	North Dakota Unmanned Autonomous Systems Council
BankNorth	Kansas State University	Northern Plains UAS Test Site
Bayer	Kirkwall, LLC	Nueta Hidatsa Sahnish College
Baytown Techwerx, LLC	KWS Digital Innovation Accelerator	O'Leary Ventures / Wonderfund
Bismarck State College	Lean-To Collaborations	Pathway Ventures
Bison Ventures Ecosystem	Maple River Grain & Agronomy	Razor Tracking
Boson Motors	Microsoft Corp.	RDO Equipment Co.
Botlink	Montana State University	Red River Manufacturers and Engineers Association
Bushel, Inc.	North Dakota Agricultural Experiment Station	South Dakota School of Mines & Technology
Chonex	North Dakota Career and Technical Education	South Dakota State University
CKNC Enterprises	North Dakota Department of Commerce	State Board of Agricultural Research and Education
Dakota Carrier Network	North Dakota Farmers Union	Tharaldson Ethanol
Emerging Prairie	North Dakota Governor's Office	Thread
FAME 3D (Fargo Additive Manufacturing Equipment 3D)	North Dakota Legislature	Trilogy
Fargo, Moorhead, West Fargo Chamber Foundation	North Dakota Small Business Development Center	UBUNTU consulting
Fargo, Moorhead, West Fargo Chamber of Commerce	North Dakota State College of Science	United Tribes Technical College
Fenworks	North Dakota State University	University of Montana
Golden Path Solutions	North Dakota State University Extension	University of North Dakota
Grand Farm Research and Education Initiative, Inc.		
Greater Fargo Moorhead Economic Development Corporation		

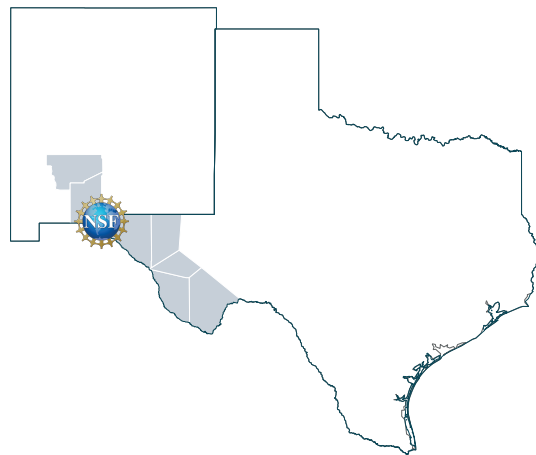
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PASO DEL NORTE DEFENSE AND AEROSPACE INNOVATION ENGINE

NSF AWARD: NSF - 2315782

Paso del Norte Defense and Aerospace Innovation Engine (New Mexico and Texas), led by The University of Texas at El Paso, aims to fuel the growth of dynamic aerospace and defense manufacturing in Paso del Norte, an eight-county region on the U.S.-Mexican border, by creating a platform that combines an emerging digital engineering paradigm and skilled workforce development.



18 Distinct Partners. A few sample partner organizations:

Academics (2)

Government Entities (8)

Industry (3)

Non-Profit(4)

Other (1)

El Paso Community College

City of El Paso

Blue Origin, NVIDIA Corporation

Arrowhead Park

New Mexico Spaceport Authority

Lead organization:

The University of Texas at El Paso.

Region of service:

El Paso, Texas, and immediately surrounding counties in Texas and New Mexico.

Competitive advantage:

The El Paso region is emerging as a center of space innovation, with significant existing collaboration between The University of Texas at El Paso and NASA's Johnson Space Center on digital engineering, a space industry accelerator and a significant lunar-forward Lunar Surface Technology Research award. Aerospace technology is poised to redefine the region's economic prospects, in part because of its proximity to the White Sands Missile Range's no-fly zone, where commercial air traffic is typically restricted and experimental launches are conducted. These clear skies, paired with the NSF Engine's university and industry partnerships, create the conditions for a robust space hub that will build and grow greatly needed resiliency into critical national supply chains for aerospace and defense.

Key Technology Areas:

Robotics and advanced manufacturing, advanced computing and semiconductors, advanced materials, advanced energy and industrial efficiency technologies, artificial intelligence, data and cybersecurity.

<https://utep.edu/nsf-engine-defense-aerospace/>

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PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315782

Arrowhead Park

Blue Origin

City of El Paso

County of El Paso

Culberson County-Allamore
Independent School District

El Paso Chamber

El Paso Community College

El Paso Independent School District

Fort Bliss Transition Assistance
Program

NASA Johnson Space Center

National Center for Defense
Manufacturing
& Machining

New Mexico Spaceport Authority

NVIDIA Corporation

Rio Grande Council of
Governments

Socorro Independent School
District

Tigua Inc.

University of Texas at El Paso (UTEP)

Workforce Solutions

Boderplex Inc.

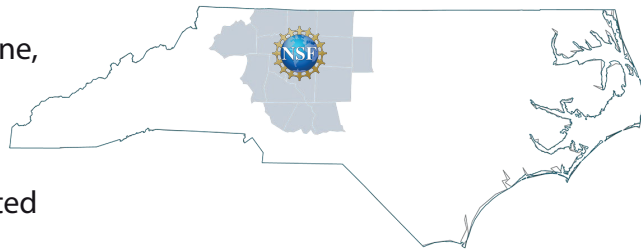
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PIEDMONT TRIAD REGENERATIVE MEDICINE ENGINE

NSF AWARD: NSF - 2315654

Piedmont Triad Regenerative Medicine Engine (North Carolina and South Carolina), led by the Wake Forest University School of Medicine, aims to cultivate breakthroughs in health care by providing the resources necessary to accelerate the transition of use-inspired regenerative medicine technologies into commercial products. Growth in this industry will help address long-term challenges related to retraining and upskilling the local workforce by developing a technical infrastructure for historically Black colleges and universities in the region to reduce disparities for underrepresented groups in science, technology, engineering and math fields.



82 Distinct Partners. A few sample partner organizations:

Academics (13)	North Carolina A & T State University
Government Entities (8)	City of Lexington
Industry (36)	Axiom Space, Javara
Non-Profit (18)	Center for Creative Economy
Other (7)	AeroX

Region of service:

Greensboro, Winston-Salem, and High Point, North Carolina (Piedmont Triad).

Lead organization:

Wake Forest University School of Medicine.

Competitive advantage:

The Wake Forest Institute for Regenerative Medicine (WFIRM) is the world's largest regenerative medicine research facility and is recognized as an international leader in translating scientific discovery into clinical therapies. WFIRM has achieved many world firsts, including the development and implantation of the first engineered organ in a patient. This NSF Engine will accelerate transition of use-inspired regenerative medicine technologies into commercial products, creating an economic driver for the region and its diverse communities. Several regenerative medicine start-ups and established companies already operate in the region. This growth in the regenerative medicine industry helps to address long-term regional challenges related to retraining and upskilling of an underemployed local workforce left behind by the loss of tobacco, textiles and furniture jobs throughout the region.

Key Technology Areas:

Biotechnology, advanced materials, artificial intelligence, robotics and advanced manufacturing.

<https://regenmedengine.com>

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PARTNER ORGANIZATIONS

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AeroX	Equilibrium	Plakous Therapeutics
Agile City	Etaluma	Plureon, Inc.
Alamance Community College	FCA Health Innovations	PreciseBio
AlloSource	Flywheel	Prokidney
Amnion Foundation	Forsyth County Commissioner (Martin)	QIAGEN
Axiom Space	Forsyth Technical Community College	Ramona Optics
BioMedInnovations	GinkgoBioworks	Regenerative Medicine Foundation
Biorg	Greater Winston Salem Inc	RegenMed Development Organization (ReMDO)
BioServe Space Technologies, University of Colorado	Hustle	RegMic
BioSpherix, Inc.	Immunaeon	RMMS
BMI Organ Bank	ISSNL	Rockingham Community College
Brinter	Javara	RTT Medical
Caylyx	Keranetics	SAS
CellBox Solutions Inc	Luxsonic Technologies	Scientific Bioprocessing Inc (SBI)
Center for Creative Economy	MIMEDX	Smart Manufacturing (PHI, BioSpherix, SAS, Qiagen)
City of Greensboro	Mitchell Community College	Sparq
City of High Point	Montgomery Community College	Surry Community College
City of Kernersville	National Center for the Biotechnology Workforce at Forsyth Tech CC	Techshot/Redwire
City of Lexington	National Institute of Standards and Technology (NIST)	Thrive Bioscience
City of Statesville	NCBIO	TruStem
City of Winston Salem	North Carolina A & T State University	VentureSouth
Clinical Trial Catalyst Program - Wake Forest University Health Sciences	North Carolina BIO	Wake Forest Institute for Regenerative Medicine (WFIRM)
Crown Consulting	North Carolina Biotechnology Center	Wake Forest University Health Sciences (WFUHS)
Davidson-Davie Community College	Oracle	Wilkes Community College
Denovix	Phase Holographic Imaging (PHI)	WillHouse Global
Economic Development Partnership of NC	PHC Group. (formerly Panasonic Healthcare, Inc.)	Winston Salem-State University
EOS		Winston Starts, Inc.
Epredia		WSPR (Winston Salem Partners Roundtable)

NSF ENGINES FACT SHEET

U.S. National Science Foundation's Regional Innovation Engines

SOUTHWEST SUSTAINABILITY INNOVATION ENGINE

NSF AWARD: NSF - 2315479

Southwest Sustainability Innovation Engine (Arizona, Nevada and Utah), led by Arizona State University, aims to equitably transform water security, renewable energy and net carbon emissions in the region by incentivizing new technology and governance, expanding infrastructure and capacity for knowledge translation, and preparing a diverse and highly skilled workforce.

56 Distinct Partners. A few sample partner organizations:

Academics (4)

Government Entities (6)

Industry/Investors (17)

Non-Profit (28)

Other (1)

University of Utah

NV Governor's Office of Economic Development

Starbucks, Ecolab

AZ Tech Council

West-Mec



Lead organization:

Arizona State University

Region of service:

Arizona, Nevada and Utah (tied together by water scarcity challenges).

Competitive advantage:

The Southwest region comprising Arizona, Nevada and Utah is especially vulnerable due to extreme aridity and heat coupled with rapid population growth. Within the next 10 years, temperatures will rise to more than 120 degrees Fahrenheit and drought conditions will be more severe. The scale of the challenges in the American Southwest demands a coordinated approach across state boundaries. This shared urgency has created a common drive for regional innovation in atmospheric water security, capture and planning; carbon capture; and long-term energy storage. This NSF Engine, anchored by Arizona State University, has assembled an effective and unique coalition of partners to commercialize or otherwise scale potentially hundreds of critical technologies to bolster the sustainability and climate resilience of the region.

Key Technology Areas:

Disaster prevention and mitigation, advanced energy and industrial efficiency technologies, robotics and advanced manufacturing

<https://swsie.asu.edu>

NSF ENGINES FACT SHEET

U.S. National Science Foundation's Regional Innovation Engines

PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315479

Arizona Commerce Authority	Epic Cleantec, Inc	Salt Lake City Department of Public Utilities (SLCDPU)
Arizona Municipal Water Users Association (AMWUA)	FRIENDS of Great Salt Lake	Salt River Project
Arizona Public Services (APS)	Gener8tor	Seven Canyons Trust
Arizona State University	Glen Canyon Institute's Returning Rapids Project	Southern Nevada Water Authority (SNWA)
Arizona Technology Council Foundation DBA SciTech Institute	Greater Phoenix Economic Chamber (GPEC)	Starbucks
AZ Tech Council	H2O Optics Insight	StartupNevada
BoydGaming	Harmons Grocery	Switch
Caesars Entertainment, Inc.	ImpactNV	The Nature Conservancy
Carollo	Intel	The Water Research Foundation
Center for the Future of Arizona	Junior Achievement	TSMC
Chandler Chamber of Commerce	Las Vegas Global Economic Alliance	U.S. Magnesium LLC
City of Cottonwood Heights Community & Economic Development	Maricopa County Community College District	University of Nevada, Las Vegas
City of Phoenix - Water Services Department	NV Energy	University of Utah
City of South Jordan, UT	NV Governor's Office of Economic Development	Utah Clean Energy
Clear Creek Associates (subsidiary of Geo-Logic Associates)	NV5, Inc.	Utah Rivers Council
Climate Interactive	Office of Economic Development - State of Arizona	West-Mec
Desert Research Institute	Patchwork Community	
Ecolab	Pipeline AZ	
Electric Power Research Institute (EPRI)	Place Collaborative (PC)	
Environmental Defense Fund (EDF)	PlugandPlay	

NSF ENGINES FACT SHEET

U.S. National Science Foundation's Regional Innovation Engines

UPSTATE NEW YORK ENERGY STORAGE ENGINE

NSF AWARD: NSF - 2315695

Upstate New York Energy Storage Engine (New York), led by Binghamton University, aims to establish a tech-based, industry-driven hub for new battery componentry, safety testing and certification, pilot manufacturing, applications integration, workforce development and energy storage, including through material sourcing and recovery.

42 Distinct Partners. A few sample partner organizations:

Academics (9)

Government Entities (6)

Industry/Investors (20)

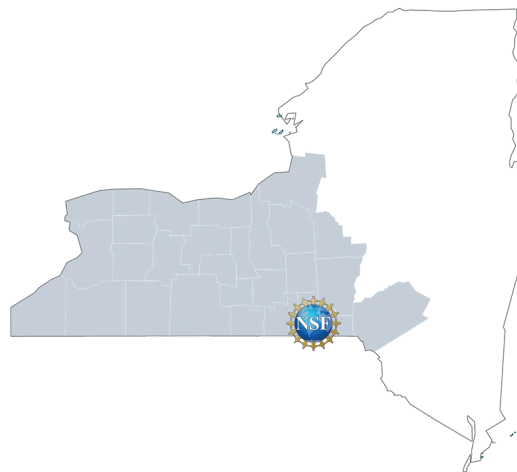
Non-Profit (7)

Cornell University

Broome-Trioga Workforce NY

BAE Systems, Kodak

Launch NY, NextCorps Inc.



Lead organization:

Binghamton University.

Region of service:

Southern Tier of New York.

Competitive advantage:

The Southern Tier of New York is home to a robust legacy of American manufacturing and is now transforming itself into the nation's advanced battery research hub. This engine is anchored by Binghamton University, the home university of Stanley Whittingham, distinguished professor of chemistry and materials science and winner of the 2019 Nobel Prize in chemistry for his pioneering work on lithium-ion batteries. Whittingham is leading the development efforts for a research and development ecosystem and has already attracted multiple lithium-ion battery manufacturers and startups innovating across the entire lifecycle of advanced batteries. Energy storage technology will be key to the nation's clean energy transition, and advances by this NSF Engine will be essential to ensuring that transition is technically possible, economically feasible and American-made.

Key Technology Areas:

Advanced energy and industrial efficiency technologies, advanced computing and semiconductors, advanced materials, data and cybersecurity, disaster prevention and mitigation, robotics and advanced manufacturing.

<https://newenergynewyork.com/nsf-upstate-ny-energy-storage-engine/>

NSF ENGINES FACT SHEET

U.S. National Science Foundation's Regional Innovation Engines

PARTNER ORGANIZATIONS

NSF AWARD: NSF - 2315695

Activate Global Inc.

Advanced Technology
International/TechConnect
Ventures

Alfred Technology Resources Inc,
dba IncubatorWorks

Alliance for Manufacturing and
Technology (AMT)

BAE Systems, Inc

Binghamton University

Broome-Tioga Board of
Cooperative Educational Services
(BOCES)

Broome-Tioga Workforce NY

Charge CCCV (C4V)

Columbia University Technology
Ventures (Columbia University's
TTO)

Cornell University

Delta ModTech

DNV

EIT InnoEnergy

Electrovaya Inc.

Empire State Development (ESD)

eZinc

ICL Group Ltd

Imperium 3 New York (IM3NY)

Jamestown Community College

Kodak

Koffman Southern Tier Incubator

Launch NY

Li-Cycle Corp.

New York State Electric & Gas
(NYSEG)

NextCorps Inc

NY-BEST: New York Battery and
Energy Storage Technology
Consortium

NYSERDA: New York State Energy
Research and Development
Authority

RF SUNY: Research Foundation for
the State University of New York

Rochester Institute of Technology
(RIT)

Schneider Electric

Social Finance

Southern Door Community Land
Trust

Southern Tier 8 Regional Board

SUNY Broome Community College

SUNY Corning Community College

Syracuse University

The Clean Fight (New Energy Nexus
New York)

The MITRE Corporation

The Raymond Corporation

University at Buffalo SUNY

Viridi International