

North Dakota
LEGENDARY



Centers of **excellence &**
research excellence

annual report 2014



— State of —
North Dakota
Office of the Governor

Jack Dalrymple
Governor



North Dakota's Centers of Excellence and Centers of Research Excellence programs partner our state's research universities with private sector companies to generate jobs and new business opportunities.

The Centers program was designed to harness the intellectual resources, high-tech equipment and training capabilities of our colleges and universities to solve "real world" problems in partnership with the private sector. Currently, 73 companies are actively partnering with the established Centers of Excellence and Centers of Research Excellence. These partnerships have leveraged \$255 million of matching funds for the state's investment of \$57.8 million.

Overall, the Centers program has had an economic impact of \$751.1 million since its creation in 2005. As of June 30, 2014, the Centers program has produced \$13 in economic impact for every \$1 of state funds invested according to a 2014 North Dakota State University study.

The Centers program and its partners generate results, having created over 264 direct jobs this year with an estimated payroll of just under \$15.2 million. Salaries and benefits for these jobs averaged approximately \$57,563 per job.

North Dakota must continue to aggressively pursue research in our state's targeted industries. The Centers of Excellence and Centers of Research Excellence are key factors in helping private sector businesses discover and develop new technologies that will continue to drive North Dakota's economic success.

Sincerely,


Jack Dalrymple
Governor

PROGRAM SUMMARY

The Centers of Excellence & Research Excellence are hubs of research and development on the campuses of North Dakota's colleges and universities, partnering with private companies to commercialize new products and services. The Centers explore research in the fields of energy, agriculture, life sciences, aerospace, manufacturing and electronics.

ECONOMIC IMPACT

The Centers of Excellence program has had \$751 million in estimated total economic impact to North Dakota's economy. This includes a direct impact of \$255 million generated by the Centers, grant recipients and their partners.

ECONOMIC IMPACT

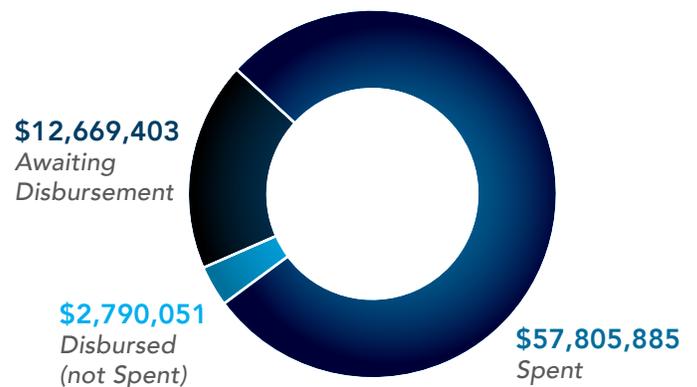


FUNDS INVESTED TO DATE

Since the first Centers of Excellence were approved by the State Legislature in 2003, a total of \$73.5 million in state funds have been awarded in 28 Centers of Excellence & Research Excellence and an additional 16 research, infrastructure and economic development projects. Of these funds, \$57.8 million has been spent by the Centers and grant recipients as of June 30, 2014.

CENTERS OF EXCELLENCE INVESTMENT

\$73.5 million awarded through June 30, 2014

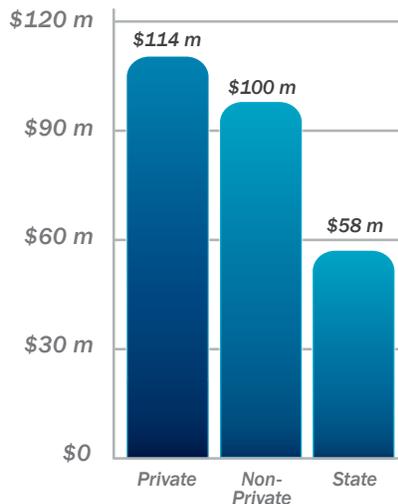


The Centers of Excellence Program has contributed to the creation or expansion of 23 businesses. This includes ten new spinoff companies, three companies that expanded to North Dakota, and ten North Dakota companies that have expanded within the state.

MATCHING FUNDS

As of June 30, 2014 the Centers and grant recipients have obtained over **\$214.2 million of matching and leveraged funds**. When comparing matching and leveraged funds received across all programs to award funds spent, a ratio of 4:1 is realized

MATCHING & LEVERAGED FUNDS RECEIVED



JOBS IMPACTED

Centers report job creation information annually. Only jobs existing as of June 30, 2014, with written verification of creation due to Center activities are included in this report. As of June 30, 2014, the Centers and their private sector partners have created or contributed to the creation of 264.5 jobs with an estimated payroll of \$15.2 million. These numbers do not include jobs that were reported in 2013 from Centers that are no longer required to report to the Centers of Excellence Commission.

During the 2013 fiscal year three Centers requested to have their post-award monitoring discontinued as they had met the minimum reporting requirement and had been sustainable without state funding for several years: the University of North Dakota (UND) Energy and Environmental Research Center’s National Hydrogen Technology Center, the Bismarck State College National Energy Center of Excellence and the Williston State College Petroleum Safety and Technology Center. These Centers reported a total of 363 jobs as part of their last functional review in 2012.

Three Centers were approved by the Legislature prior to 2005 and have been voluntarily reporting to the Centers of Excellence Commission for over six years: the UND Center for Innovation, the North Dakota State University (NDSU) Technology Incubator and the NDSU Beef Systems Center. These Centers reported a total of 369 jobs in 2012.

CENTERS OF EXCELLENCE COMMISSION MEMBERS

The Centers of Excellence Commission oversees the administration of Centers of Excellence, Centers of Excellence Enhancement Grants, Centers of Research Excellence, Research ND, Base Realignment Grants, and Limited Deployment Cooperative Airspace Projects (LDCAP).

The Centers of Excellence Commission, with assistance from the North Dakota Department of Commerce, oversees the post-award monitoring of all Centers and grant recipients. The process includes quarterly updates, site visits, third-party audits and an in-depth annual review of each award. All grant recipients are required to complete at least six years of post-award monitoring. One objective of the post-award monitoring activities is to measure the progress of an award against the results proposed in its respective application for funding. Another objective of the post-award monitoring activities is to ensure grant recipients are spending award funds in compliance within the scope of their project and in accordance with program requirements. Centers and grant recipients that demonstrate progress and compliance with program requirements are funded in stages according to their respective Centers of Excellence Commission-approved budget.



North Dakota Economic Development Foundation Members

A. Mark Nisbet, Chairman
North Dakota Principal Manager
Xcel Energy, Fargo

B. Tim Hennessy, Vice Chairman
Regional President
US Bank, Bismarck

C. Jim Traynor
Director of Client/Channel Management
Intelligent InSites, Fargo



State Board of Higher Education Members

D. Kathy Neset
President
Neset Consulting, Tioga

E. Terry Hjelmstad
Retired School Administrator
Minot Public Schools, Grand Forks

F. Kevin Melicher, O.D.
Optometrist
Eyecare Associates, PC, Fargo

For details on previously approved Centers of Excellence and Centers of Excellence Enhancement Grants, visit www.NDCentersOfExcellence.com.

PROGRAM PARTNERS

AAG Aqua Advisory Group Inc.	Flight Safety International	Presco LLC
Access Energy LLC	General Electric	RapidEngines
Ag Leader Technology	General Steel & Supply Co	Riverbound Farm
Agri ImaGIS Technologies	GeoOptics, Inc.	Rockwell Collins
American Bank Center	Global Agricultural Solutions	Sanford Health/Sanford Research
Amity Technology LLC	Hess Corporation	Schiltz Goose Farms North
Appareo Systems	InnerGeo LLC	Space Age Synthetics LTD
Archer Daniels Midland Company	Intraglobal Biologics	Starkey Hearing Technologies
Arkema	INVISTA	StatOil
Avianax LLC	Jeffrey Donohoe Associates	Steffes Corporation
Bayer Crop Science LP	Kuraray America	T & T Solutions
BenchMark Energy Corporation	L3 Com	Technology Applications Group (TAG)
Bobcat	LM Wind Power Group	Tiorco
Bold Method	Medora Environmental Inc	TMI Systems Design Corp
Charles Stark Draper Laboratory, Inc	Menon and Associates	Triton Systems Inc
Chemera	Mid-America Aviation Inc	Wholesale Supply Company
Cogi, Inc.	MITRE	
Computer Modeling Group	Monsanto	
ConocoPhillips	Nalco Champion	
Continental Resources, Inc.	Next Healthcare Inc	
CorsiTech	Noble Energy	
CryoDesalination LLC	North Dakota Farmers' Market & Growers Association	
Cutbank Creek Produce	North Dakota Soybean Council	
Deep Earth Energy Production	North Star Farms	
DPS Technology	Northrop Grumman Corp	
Draganfly Innovation, Inc.	NovaDigm Therapeutics Inc	
Elder and Haas	Pedigree Technologies LLC	
FARRMS	Phone Halo	
	PPG Industries, Inc	

The companies in bold lettering have a presence in North Dakota.

	University, College or Related Foundation	Launch Date	Awards	Match & Leveraged Funds Received
Centers of Excellence				
Beef Systems Center of Excellence	NDSU	Oct 2007	\$800,000	\$2,000,000
Center for Advanced Electronics Design and Manufacturing	NDSU	Feb 2006	\$3,000,000	\$15,080,474
Center for Advanced Technology Development and Commercialization	NDSU	Nov 2012	\$3,900,000	\$68,573
Center for Agbiotechnology: Oilseed Development	NDSU	Aug 2009	\$3,500,000	\$12,000,000
Center for Biopharmaceutical Research and Production	NDSU	May 2012	\$5,015,000	\$6,262,266
Center for Innovation	UND	Jan 2005	\$800,000	\$3,565,000
Center for Integrated Electronic Systems	NDSU	June 2009	\$2,050,000	\$4,237,867
Center for Sensors, Communications and Control	NDSU	Jan 2011	\$2,800,000	\$2,524,132
Center for Surface Protection	NDSU	May 2006	\$4,000,000	\$9,680,723
Center of Excellence in Life Sciences and Advanced Technologies	UND	March 2007	\$3,500,000	\$4,347,172
Center of Excellence for Passive Therapeutics	UND	June 2009	\$2,650,000	\$6,554,467
Center of Excellence in Space Technology and Operations	UND	June 2009	\$1,000,000	\$235,200
Dakota Center for Technology Optimized Agriculture	LRSC	June 2010	\$850,000	\$3,138,723
Enterprise University*	VCSU	May 2006	\$1,000,000	\$5,140,039
Entrepreneurial Center for Horticulture	DCB	June 2011	\$400,000	\$1,099,010
Institute for Technology and Business	DSU Strom Center	Oct 2006	\$1,150,000	\$5,265,972
National Center for Hydrogen Technology	UND	Feb 2006	\$2,500,000	\$58,606,463
National Energy Center of Excellence	BSC	Feb 2006	\$3,000,000	\$7,292,000
NDSU Research Technology Incubator	NDSU	March 2007	\$1,250,000	\$5,307,600
Petroleum Research, Education, & Entrepreneurship Center	UND	June 2009	\$3,000,000	\$8,267,233
Petroleum Safety and Technology Center	WSC	May 2006	\$400,000	\$1,183,044
SUNRISE BioProducts	UND	June 2009	\$2,950,000	\$4,141,543
Unmanned Aircraft Systems Center of Excellence	UND	May 2008	\$2,500,000	\$17,187,052

Enhancement Grants

Certificate Programs for Full Motion Video and Activity Based Intelligence Analysis	UND	June 2011	\$746,000	\$0
Grand Forks Air Force Base Realignment Business Transition Enhancement Grant	UND	June 2011	\$200,000	\$299,548
Law Enforcement Small UAS Training	UND	May 2012	\$230,000	\$74,970
Materials & Nanotechnology Centre Enhancement Grant	NDSU	Sept 2011	\$1,000,000	\$0
North Dakota UAS Airspace Initiative Enhancement Grant	UND	March 2011	\$100,000	\$6,516
Research 1 Expansion Enhancement Grant	NDSU	Jan 2011	\$4,000,000	\$5,000,000
UAS Research, Education & Training Enhancement Grant	UND	June 2010	\$2,754,000	\$1,357,961
UAS Software & Curriculum Development Enhancement Grant	UND	March 2011	\$600,000	\$192,803
V2 Aerospace	UND	Sept 2011	\$370,000	\$43,820

Centers of Research Excellence

Center for Avian Therapeutics for Infectious Diseases	UND	June 2013	\$700,000	\$1,429,051
Center for Biobased Materials Science and Technology	NDSU	June 2014	\$1,132,500	\$0
Center of Gas Utilization	UND		\$300,000	\$0
Center for Life Sciences Research & Applications	NDSU	Nov 2012	\$1,350,000	\$0
Center for Technologically Innovative Processes & Products	NDSU	Aug 2012	\$1,331,250	\$307,363

Base Realignment

Airspace Integration Team – UAS National Test Site	UND	Nov 2012	\$500,000	\$123,753
Enhanced Use Lease (EUL) for Grand Forks Air Force Base III	UND	Nov 2012	\$921,050	\$127,295
Enhanced Use Lease Phase IV	UND	July 2013	\$160,000	\$0
Global Hawk Sensor Operator Part Task Trainer	UND	Dec 2011	\$878,204	\$11,745,375
Integrating UAS into the National Airspace, Phase II	UND	Dec 2011	\$255,440	\$150,102
Joint Distributed Common Ground System	UND	Dec 2011	\$125,706	\$46,191

Limited Deployment Cooperative Airspace Project

Automatic Dependent Surveillance-Broadcast Miniaturization Program	NDSU	Nov 2011	\$1,300,000	\$5,531,276
Limited Deployment Cooperative Airspace Project	UND	Oct 2011	\$2,700,000	\$4,609,649

GRAND TOTALS

\$73,669,150

\$214,230,225

*Enterprise University concluded its operations and returned \$200,545.51 of its original \$1 million Centers of Excellence Award to the North Dakota general fund.

The Centers of Excellence program is a key component of North Dakota's technology-based economic development strategy. It has generated significant economic benefits by leveraging the research and intellectual capabilities of the state's universities and colleges with the resources of private sector companies.

Total economic impact:
\$751 million

Nearly **\$4** raised
for every **\$1** of
awarded funds spent

23 businesses
created or
expanded

73 private sector
partners

www.NDCentersofExcellence.com