Prepared by the North Dakota Legislative Council
staff for the Budget Section
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# SUMMARY OF 2007-09 CENTERS OF EXCELLENCE APPLICATIONS - ROUND 1

## AUTHORIZATION AND FUNDING

The 2005 Legislative Assembly approved Senate Bill No. 2032 establishing a centers of excellence program. The Centers of Excellence Commission created by the bill is responsible for the application process and for making funding award recommendations for commission-approved applications for centers of excellence. The applications that are being submitted to the Emergency Commission and Budget Section have been approved by the Centers of Excellence Commission, the Economic Development Foundation, and the Board of Higher Education.

The 2007 Legislative Assembly appropriated $15 million from the permanent oil tax trust fund to the Office of Management and Budget for centers of excellence grants and authorized the Office of Management and Budget, as directed by the Centers of Excellence Commission and with Emergency Commission and Budget Section approval, to borrow up to $5 million from the Bank of North Dakota for providing additional funding for centers of excellence, if the $15 million appropriated from the permanent oil tax trust fund is committed. Of the $15 million appropriation, up to $10 million is available for Budget Section approval at its first meeting after September 1, 2007, and up to $5 million and any unawarded funds remaining from the first year $10 million allocation is available for Budget Section approval at its first meeting after September 1, 2008.

## 2005-07 APPROVED APPLICATIONS

During the 2005-07 biennium, the Budget Section approved the following centers of excellence grants:

| | | |
|---|---|---|
| **Round 1** | | |
| Bismarck State College | Energy Center of Excellence | $3,000,000 |
| Lake Region State College | Dakota Center of Optimized Agriculture | 450,000 |
| University of North Dakota | National Center for Hydrogen Technology | 2,500,000 |
| North Dakota State University | Center for Advanced Electronics Design and Manufacturing | 3,000,000 |
| Total - Round 1 | | $8,950,000 |
| **Round 2** | | |
| Williston State College | Petroleum Safety Technology Center | $400,000 |
| University of North Dakota | Center for Unmanned Aerial Vehicle and Simulation Applications | 1,000,000 |
| University of North Dakota | Center for Life Sciences and Advanced Technology | 3,500,000 |
| North Dakota State University | Center for Agbiotechnology: Oilseed Development | 2,000,000 |
| North Dakota State University | Center for Surface Protection | 2,000,000 |
| Valley City State University | Enterprises Applications Model | 1,000,000 |
| Total - Round 2 | | $9,900,000 |
| **Round 3** | | |
| Dickinson State University | Center for Entrepreneurship and Rural Revitalization | $1,150,000 |
| Total - 2005-07 biennium | | $20,000,000 |

## 2007 APPLICATION SUMMARIES

The schedule below summarizes the statutory **requirements and other considerations** contained in North Dakota Century Code Chapter 15-69 related to centers of excellence as well as additional information requested by the Emergency Commission in December 2005. Upon approval of the application by the Centers of Excellence Commission, the State Board of Higher Education, North Dakota Economic Development Foundation, **and Budget Section (after a recommendation by the Emergency Commission)**, an entity may be provided a funding award and be designated as a "center of excellence."

The 2007-09 centers of excellence applications approved by the Centers of Excellence Commission for Round 1 totaling $10 million are listed below, along with related statutory provisions and summary information for each of the applications.

| Description | Project - Application Summary | | | | | |
|---|---|---|---|---|---|---|
| **Emergency Commission Request No./Project** | **1632 North Dakota State University - Agbiotechnology - Oilseed Development II** | **1633 North Dakota State University - Surface Protection** | **1634 University of North Dakota - Biomedical Device Research, Development, and Commercialization** | **1635 University of North Dakota - Unmanned Aircraft System** | **1636 Lake Region State College - Dakota Center for Technology-Optimized Agriculture** | **1637 Minot State University - Great Plains Knowledge and Data Center** |
| Center of excellence funding **request** | $2,000,000 | $3,012,952 | $3,240,905 | $3,500,000 | $402,000 | $3,487,383 |
| Proposed center of excellence funding **award** | $1,500,000 | $2,000,000 | $2,500,000 | $1,500,000 | $400,000 | $2,100,000 |
| **Requirements** A center must be an institution of higher education or a nonprofit university- or college-related foundation under the control of the State Board of Higher Education (Section 15-69-02(1)). | North Dakota State University | North Dakota State University | University of North Dakota | University of North Dakota | Lake Region State College | Minot State University |
| The institution or nonprofit foundation must be working in partnership with the private sector (Section 15-69-02(1)). | Monsanto<br>Archer Daniels Midland | Praxair Surface Technologies<br>Technology Application Group<br>Sulzer Metco<br>Marvin Windows and Doors<br>Akzo Nobel | Enova Medication Technologies | Lockheed Martin<br>Raytheon<br>Boeing<br>Northrup Grumman<br>AAI<br>Cirrus Design<br>SEO Precision<br>Killdeer Mountain Manufacturing<br>Others | Agri Iama GIS Technologies<br>AGVISE Laboratories<br>Airborne Data Systems<br>Farmers Edge Precision Consulting<br>Packet Digital LLC<br>Verdi-Plus | InfoTech - Minot Technology Center<br>SRT Communications |
| Designation (Section 15-69-02(1) | Commercialization | Commercialization | Commercialization | Infrastructure and commercialization | Commercialization | Commercialization |
| How future maintenance and operational costs of any new infrastructure will be provided (Section 15-69-02(1)) | N/A | N/A | N/A | No information provided | N/A | N/A |
| A center shall use funds awarded to enhance capacity, enhance infrastructure, and leverage state, federal, and private funds. A center may not use funds awarded to supplant funds for current operations or academic instruction or to pay indirect costs (Section 15-69-05(1)). | Funding will be used for salaries, operating expenses, and equipment for evaluating new canola lines; for testing oil content, quality, and other attributes of new germoplasm lines and species; and for analyzing potential cost-savings to growers, alternative premium strategies, and market competition. | Funding will be used for salaries, operating, equipment, and remodeling to conduct market-based research and development relating to gun barrel coatings; for legal costs, business plan development, marketing, and other activities relating to technology transfer; and to provide consulting services to partner organizations. | Funding will be used to hire research and administrative staff, support faculty, and graduate students at UND and NDSU and for equipment and operating costs to research, develop, and commercialize biomedical devices. | Funding will be used to hire personnel to build the infrastructure to promote research, development, and commercialization of unmanned aircraft systems (UAS) civilian industry. The center will focus on:<br>1. Education and training on the integration of UAS into civilian aviation industry.<br>2. Human factors flight performance research.<br>3. Research and development of UAS payload sensors. | Funding will be used for salaries, testing, and equipment components related to the development of a towed-hose slurry manure variable rate applicator and related soil and nutrient sensors and software. | Funding will be used for personnel costs, operating expenses, and equipment purchases to expand SRT's current production data center capabilities and to establish and operate a research and development facility at Minot State University to promote the development and advancement of knowledge-based businesses in the region. |

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| Total matching funds anticipated ($2 of matching funds are required for each $1 of state funds) (Section 15-69-05(3)). | $5,580,000 | $4,000,000 | $5,000,000 | $3,000,000 | $843,400 | $4,200,000 |
| **Major consideration** In making funding recommendations and designation determinations, the commission, board, foundation, and Budget Section **shall give major consideration** to the portion of matching funds provided **in cash** by the **private sector** (Section 15-69-05(3)). | Private sector cash:<br>ADM $80,000 | Private sector cash:<br>Akzo Nobel Aircraft Coatings $50,000<br>Other cash:<br>Federal funds $633,050<br>Total cash $683,050 | Private sector cash:<br>Enova Medical Technologies $3,714,000<br>Other cash:<br>City of Minot $745,000<br>Minot Economic Development 220,000<br>Total other cash $965,000<br>Total cash $4,679,000 | Private sector cash $0<br>Other cash:<br>Federal funds $1,850,000<br>Total cash $1,850,000 | Private sector cash $0<br>Other cash:<br>Local economic development $50,000<br>Federal funds 98,900<br>Total other cash $148,900<br>Total cash $148,900 | Private sector cash $0<br>Other cash: $0<br>Total cash $0 |
| **Other considerations (Section 15-69-04(3))** In deciding whether to approve or disapprove an application, the commission **is to consider** whether the center will: | | | | | | |
| **Use** university or college **research** to promote private sector **job growth** and expansion of knowledge-based industries or use university or college research to promote the development of **new products**, **high-tech companies**, or **skilled jobs** in this state | The center's activities will result in new technology that will increase farmers' yields, reduce risks, and generate additional profit; increase investment in processing; and enhance processing efficiency. | The center will research and develop new materials with its industry partners to create new products, jobs, and opportunities for companies that will benefit North Dakota. | The center involves both UND and NDSU staff and students, in partnership with private sector and community partners, to research, develop, and commercialize biomedical devices that have the potential to generate intellectual property, business opportunities, and skilled jobs. | The center will develop payload options and sensors, platform modifications, and ground-based cockpit innovations that will allow for the creation of new products and jobs in North Dakota. The ultimate goal of the center is to develop a flight training and aircraft manufacturing business package that will be based in Grand Forks. | The center identifies and develops, through collaboration with its private partners, software, hardware, and agronomic advice providing technological control of agriculture machinery for zone-specific applications. | The research and development facility at Minot State University will allow faculty, students, and community professionals to explore, discover, design, develop, and test new concepts and practices in technology and knowledge-based applications. Business services may include marketing research conducted by students to identify industry needs and new markets. |
| Create high-value private sector employment opportunities in this state | The center has the potential of allowing for the construction of two new processing plants which would result in the creation of 160 direct jobs, including technicians, professionals, and manufacturing personnel and 1,639 indirect jobs primarily in rural areas of western, north central, and southwestern North Dakota. | The center, in partnership with private sector, will conduct the research and development necessary for these private sector partners to expand their business and create new business opportunities that will lead to job creation within these businesses. | The center will initially create 6 jobs in Minot with the potential of employing 100 after two years with the development of a manufacturing plant to produce devices resulting from activity of the center. Potential jobs could total 200 by 2012. | The center's activities will lead to the creation of 40 high-paying private sector jobs relating to manufacturing, training, and service-related activities in North Dakota. | The center has created high-value jobs resulting from its research and development functions. | The center will facilitate the creation of 70 new high-technology knowledge-based jobs for industry partners by June 30, 2010. |
| Provide for public/private sector involvement and partnerships | A public/private partnership is identified. | A number of public/private partnerships are identified. | A public/private partnership is identified. | A number of public/private partnerships are identified. | A number of public/private partnerships are identified. | A number of public/private partnerships are identified. |

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| Leverage other funding | Federal funds will be pursued through demonstration projects. One is pending. | The center has opportunities to generate additional funding from a variety of sources. | Reference is made to the $5,000,000 total match referred to above. | Additional federal funds may be available for general aviation research. | Other funding and services have been secured from public and private sources and the center is seeking additional private sector funds for specific initiatives. | The center will leverage current and future investments received by InfoTech-MTC to create intellectual capital that will include new ventures and products. Center activity will also be supported by federal contracts secured by InfoTech-MTC. |
| Increase research and development activities that may involve federal funding from the National Science Foundation experimental program to stimulate competitive research | Activities of the center can be used to pursue funds from other granting agencies. | Obtaining enhanced infrastructure and capabilities resulting from this request will make the center more viable to acquire additional funds from these sources. | The center will generate numerous opportunities for research proposals to be submitted to federal agencies, including the National Science Foundation and EPSCoR. | The center will have opportunities for seeking additional funding from these and other federal sources. | The center has a number of grant applications pending and under development for accessing funds from these types of programs. | The center will be eligible to seek grant awards from these sources. |
| Foster and practice entrepreneurship | Biodiesel and derivative products are new and their commercialization should be viewed as entrepreneurial. Products from special oil traits may create new business opportunities. | The center's activities, including the development of intellectual property, provide opportunities for entrepreneurial activity. | Biomedical device research requires innovation and commercialization will require entrepreneurship. | The center's primary focus is to facilitate the growth of high-value private sector unmanned aircraft systems industry jobs in North Dakota. | The center has demonstrated its capability to provide incentives for entrepreneurial development. Its private sector partners continue to practice entrepreneurship. | The center will allow students and professionals the tools and support needed to develop new applications, products, protocols, and services leading to entrepreneurial endeavors. |
| Promote the commercialization of new products and services in industry clusters | New products in the form of agricultural technology will be developed by the center. New products will be evaluated and may become commercially available. | The center conducts research and development of new coatings that benefit its partners in a number of industries important to North Dakota. | The center will enhance advanced manufacturing in North Dakota, resulting from the desired outcome of the center of the establishment of a manufacturing plant in Minot. | The center will be involved in the commercialization of a number of products and services in the unmanned aircraft system industry. | The center will be involved in the commercialization of high resolution macroimagery, remote data stream transmission, data processing capacity within data centers, and the manufacture of machine components, product demonstrations, and adult learner modules. | The center will allow for the development of new ideas into products and services that the center will promote. The production data facility will allow new clients to join the partnership and bring new businesses to North Dakota. |
| Become financially self-sustaining | Successful commercialization will provide royalty income that will be shared by NDSU and Monsanto which should provide a basis for future funding. | The center plans to become self-sustaining by procuring additional funds and support from grant and contract activity involving public and private organizations. | The goal of the center is to demonstrate successful research development and commercialization of biomedical devices to attract biomedical companies to use the center for conducting these activities. The center may also attract federal or other grants. | The request includes funding for a business development position to assist in making the center financially self-sustaining by supporting commercialization of technologies and expansion of private businesses in Grand Forks. | The center is pursuing revenue from:<br>1. Additional partners,<br>2. Federal agencies,<br>3. Licensing fees for access to product designs, and<br>4. Private sector grants. | The center will become self-sustaining through contracts for services with private sector clients. Additional funds may be generated through grant-sponsored activities. |
| Establish and meet a deadline for acquiring and expending all public and private funds specified in the application | The center will spend the funds over four years. | The center plans to spend the funds over three years. | The center anticipates spending the funds over three years. | The center plans to spend the funds over two years. | The center plans to spend the funds over three and one-half years. | The center plans to spend the funds over two and one-half years. |

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| **Responses to previous Emergency Commission questions**<br>The potential new private sector jobs that will be created if your center of excellence proposal is funded, including the nature of the jobs and the number of new jobs | The potential of 160 jobs in two new processing plants, including technicians, professionals, and manufacturing positions; and 1,639 secondary indirect jobs | The center projects creating 20 to 30 new private sector jobs, including high-tech manufacturing jobs, laboratory personnel, and technicians. | The center will initially create six jobs with the potential of creating the following 200 jobs by 2012:<br>10 or more managers,<br>10 or more engineers,<br>5 or more quality and regulatory positions,<br>30 or more technicians,<br>20 or more administrators, and<br>125 or more production positions. | The center's activities are anticipated to create 40 high-paying private sector jobs, including engineers, flight instructors, technicians, managers, and technical support positions. | The center anticipates creating 26 new private sector jobs. The nature of the jobs is not identified. | The center anticipates creating 70 new high-technology knowledge-based jobs by June 30, 2010. |
| How any new building that is proposed with the use of the funds will be sustained from a financial standpoint, detailing the costs of sustaining the building and the source of revenue | N/A | N/A | N/A | N/A | N/A | N/A |
| Details concerning the private sector match for each proposal, including description and value of any in-kind match | Private sector cash $80,000<br>Private sector in-kind match:<br>Monsanto - Germplasm canola $5,000,000<br>ADM - Quality evaluation 500,000<br>Total private sector in-kind match $5,500,000 | Private sector cash $50,000<br>Private sector in-kind match:<br>Praxair - Testing, equipment, technical support, and marketing $300,000<br>Sulzer Metco - Testing, equipment, technical support, and marketing 1,966,950<br>Marvin Windows and Doors - Research and other projects 180,000<br>Akzo Nobel - Technical support, equipment, and materials 600,000<br>Technology Applications Group - Testing and research 75,000 | Private sector cash $3,714,000<br>Private sector in-kind match:<br>Enova Medical Technologies - Administrative expenses $105,000<br>Consulting fees 60,000<br>Regulatory expenses 75,000<br>Patent expenses 60,000<br>Total private sector in-kind match $300,000 | Private sector cash $0<br>Private sector in-kind match:<br>Lockheed Martin - Training, consulting, testing, and access to equipment $1,000,000<br>Raytheon - Training, consulting, and access to equipment 150,000<br>Total private sector in-kind match $1,150,000 | Private sector cash $0<br>Private sector in-kind match:<br>Agri Ima GIS Technologies - Personnel, software, licensing, and use of equipment $150,000<br>Airborne Data Systems - Personnel, machine components, materials, aircraft usage 260,000<br>Farmers Edge Precision Consulting - Personnel 21,000<br>Pocket Digital, LLC - Personnel and sensors and software modules 20,000 | Private sector cash $0<br>Private sector in-kind match:<br>SRT Communications - Data bandwidth, server space, power consumption, other data-related costs $30,000<br>InfoTech-MTC - Technical expertise 1,500,000<br>Application R&D contracts 2,500,000<br>Future contracts 100,000<br>Total private sector in-kind match 70,000 $4,200,000 |

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| | | New projects with other companies 195,000<br>Total private sector in-kind match $3,316,950 | | | Verdi Plus - Personnel, data equipment, and devices 80,000<br>Total private sector in-kind match $531,000 | |
| For the center's executive summary and budget detail see: | Appendix A | Appendix B | Appendix C | Appendix D | Appendix E | Appendix F |
| Emergency Commission recommendation/vote | Approve 5-1 | Approve 5-1 | Approve 5-1 | Approve 5-1 | Approve 4-2 | Approve 4-2 |

## APPROVAL PROCESS

In order to receive a funding award and be designated a center of excellence, each application must:

1. Be approved by the Centers of Excellence Commission - The commission may modify the application request (Section 15-69-02(1)).
2. Be approved by the Economic Development Foundation (Section 15-69-02(2)).
3. Be approved by the State Board of Higher Education (Section 15-69-02(2)).
4. Be reviewed by the Emergency Commission. The Emergency Commission makes a recommendation on each application to the Budget Section (Section 15-69-02(2)).
5. Be considered by the Budget Section. The Budget Section, in considering each proposal, has the following options:
   - Approve the proposal.
   - Reject the proposal.
   - Rerefer the proposal to the Centers of Excellence Commission with recommended modifications.

If, upon receiving a rereferred recommendation, the commission modifies the recommendation or retains the recommendation and provides additional information within 30 days, the Emergency Commission may meet and either approve or reject the recommendation. If the Emergency Commission does not meet to consider the rereferred proposal within 30 days, the proposal will be considered at the next Budget Section meeting as modified or retained with additional information. (Section 15-69-02(2)).

ATTACH:6