

The Third Frontier Fiscal Years 2007

Request for Proposals (RFP)

Wright Centers of Innovation in Engineering and Physical Sciences

- **RFP Released – 3/25/2006**
- **Bidder's Conference – 4/26/2006 at 10 A.M. at the
Business Technology Center, 1275 Kinnear Rd.,
Columbus, OH 43215**
- **Letters of Intent due by 2:00 PM – 5/10/2006**
- **Written Questions – 3/22/2006 through 6/7/2006**
- **Proposals due by 2:00 PM – 6/21/2006**
- **Review and Award approximately – 11/2006**



**RFP Administered by:
The Ohio Department of Development
Technology Division
77 South High Street 25th Floor
Columbus, Ohio 43215**

TABLE OF CONTENTS

1	STATEMENT OF SOLICITATION	1
1.1	Introduction	1
1.2	The RFP Process.....	1
1.2.1	Release of RFP	2
1.2.2	Bidder's Conference (Optional)	2
1.2.3	Letter of Intent	2
1.2.4	Questions and Answers	2
1.2.5	Proposal	3
1.2.6	Evaluation.....	3
1.2.7	Recommendations, Decision, and Approvals	3
1.2.8	Grant Agreement Preparation	3
1.2.9	Award	4
1.3	Mandatory Compliance	4
1.3.1	Human and Animal Research	4
1.3.2	Human Embryo Research.....	4
1.3.3	State Compliance.....	4
1.3.4	Other Compliance.....	5
2	BACKGROUND.....	5
2.1	The Third Frontier Project.....	5
2.2	Commercialization Framework	6
2.3	Determining Commercialization Phase	8
3	PROGRAM DESCRIPTION	9
3.1	Purpose	9
3.2	Goals and Objectives	10
3.3	Eligibility.....	11
3.3.1	Technology Subject Matter	11
3.3.2	Lead Applicant	12
3.3.3	Collaborators	13
3.4	Funding.....	13
3.4.1	Use of Funds.....	13
3.4.2	Cost Share Requirements.....	13
3.4.2.1	Magnitude.....	13
3.4.2.2	Sources	14
3.4.2.3	Constraints.....	15
3.5	Term of Project.....	15
3.5.1	Project Period	15
3.6	Reporting Requirements.....	15
3.7	Commercialization Requirements	15
3.8	Past Performance	16
4	EVALUATION CRITERIA.....	16
4.1	Commercialization Potential	16
4.2	Scientific Merit.....	17
4.3	Implementation Factors	17
4.4	Performance History on Previously Funded Third Frontier Projects	18

5	GENERAL PROPOSAL REQUIREMENTS	19
5.1	General Instructions.....	19
5.2	Trade Secrets	20
5.3	Order and Content of Proposal Sections.....	20
5.3.1	Applicant Information Page.....	20
5.3.2	Trade Secret Information.....	20
5.3.3	Applicant and Collaborator Information	21
5.3.4	Abstract.....	21
5.3.5	Table of Contents.....	21
5.3.6	Proposal Narrative	21
5.3.7	Commercialization Strategy	23
5.3.8	Sustainability Plan	24
5.3.9	Projected Economic Impacts	25
5.3.10	Budget.....	25
5.3.11	Experience and Qualifications.....	26
5.3.12	Past Performance on Previous Third Frontier Awards	27
5.3.13	Collaborator Information/Letters of Commitment	27
5.4	Page Limitations	28

APPENDICES

- A. Forms
- B. Definitions
- C. Cost Share Guidelines

Wright Centers of Innovation in Engineering and Physical Sciences Fiscal Years 2006 and 2007

Request for Proposals (RFP)

1 Statement of Solicitation

1.1 Introduction

This Request for Proposal (RFP) is being issued for grants to be awarded under the Third Frontier Project. The Third Frontier Commission (TFC) reserves the right to fund any proposal in full or in part, to request additional information to assist in the review process, to require new proposals from interested parties, to reject any or all proposals responding to this RFP, or to re-issue the RFP if it determines that it is in the best interests of the State of Ohio. Issuing this RFP does not bind the State to making an award. The Ohio Department of Development (ODOD) administers the RFP. ODOD reserves the right to adjust the dates for this RFP for whatever reason it deems appropriate.

All costs incurred in preparation of a proposal shall be borne by the Lead Applicant. Proposal preparation costs are not recoverable under an award. The State shall not contribute in any way to recovering the costs of proposal preparation.

The funding decisions of the TFC are final. All Lead Applicants will be notified in writing of the outcome of their application after the TFC makes its decisions. If requested, Lead Applicants must attend the TFC meeting when proposals are considered for funding.

If requested, Lead Applicants selected for funding must attend the Controlling Board meeting when their application for capital funding is heard.

The ODOD's Technology Division will administer all grant awards made under this RFP.

1.2 The RFP Process

The RFP process will consist of the following steps:

- Release of RFP
- Bidder's Conference (optional attendance)
- Submittal of Letter of Intent
- Written Questions & Answers (Q&A)
- Submittal of proposals
- Review and evaluation of proposals
- Recommendation, decision and approval of award winners
- Grant Agreement preparation
- Grant award

Each of these steps is discussed below.

1.2.1 Release of RFP

All RFP's covering Third Frontier Programs will be published on the Third Frontier web site (www.thirdfrontier.com). Lead Applicants must comply with all requirements stated in the RFP. Lead Applicants are advised that there will be no opportunity to correct mistakes or deficiencies in their proposal after the submission deadline. Proposals that are missing required forms and information may not be evaluated. It is solely the responsibility of the Lead Applicant to ensure its proposal is complete, accurate, responsive to the requirements, and received on time. Incomplete proposals and those not complying with the requirements of the RFP may be excluded from evaluation.

1.2.2 Bidder's Conference (Optional)

An optional Bidder's conference will be held regarding this RFP. Attendance is encouraged but is not mandatory. The conference will include a presentation by ODOT covering the intent and purpose of the RFP, the requirements of the RFP, and the evaluation process that will be used to determine awardees. Potential Lead Applicants will be given the opportunity to submit written questions to ODOT staff who will provide answers at the conference and who will then post the responses on the Third Frontier website.

1.2.3 Letter of Intent

Prospective Lead Applicants must submit a letter stating their intent to submit a full proposal. The Letter of Intent (LOI) must include the following information: the prospective Lead Applicant's name, address, phone number, contact person, e-mail address for the contact, known collaborators, proposed project title, estimated dollars to be requested, and one paragraph summary of proposed topic. Submitting an LOI does not bind the prospective Lead Applicant to submitting a proposal. However, no proposal will be reviewed unless an LOI has been submitted by the deadline for LOIs.

Prospective Lead Applicants submitting LOIs will be issued an identification number for the proposed project named in the RFP. The identification number must appear on the application Information Page of the proposal.

The LOI must be submitted by e-mail and received before the deadline. The e-mail should be addressed to 2007_WrightCenter_RFP@odod.state.oh.us and use "2007 Wright Centers of Innovation in Engineering RFP LOI" in the subject line.

1.2.4 Questions and Answers

All questions regarding this RFP must be submitted in writing via e-mail. Substantive questions and answers will be posted in a Frequently Asked Questions section at the Third Frontier Project web site (www.thirdfrontier.com). Questions should be sent to 2007_WrightCenter_RFP@odod.state.oh.us. Use "Wright Centers of Innovation in Engineering RFP Q&A" as the subject line. ODOT reserves the right to edit questions to provide brevity, clarity, and to cover the same general question from several potential Lead Applicants.

1.2.5 Proposal

It is the responsibility of the Lead Applicant to ensure that ODOT's Technology Division receives proposals at the prescribed place and by the submission date and time. Late proposals will not be reviewed. Lead Applicants must ensure that proposals submitted in response to this RFP comply with all the requirements set forth in the RFP. Lead Applicants are advised to read this RFP carefully to ensure a complete understanding of the proposal requirements. In particular, the form, format, and content of all proposals must follow the directions provided in Sections 3 and 5 and use the forms presented in appendix A. Proposals that do not include the required components may be returned to the Lead Applicant without review. No supplementary or revised materials will be accepted after the scheduled date for submission unless specifically requested by the ODOT.

1.2.6 Evaluation

All proposals will be subjected to an Administrative Review where the proposals will be reviewed with respect to compliance with RFP requirements. Proposals found not to comply with the RFP requirements may not be reviewed. For those meeting the requirements of the administrative review, ODOT will use external reviewers to read, evaluate, and score the proposals. The external reviewers will score the proposals based on the evaluation criteria discussed in Section 4.

External reviewers will implement a process to identify potential conflicts of interest on the part of both individual reviewers and the organization, and to implement ways to avoid and mitigate such conflicts.

External reviewers will create a rank ordered list of proposals recommended for funding based on how well they score, prepare a written set of comments about each proposal, and brief the ODOT staff about the risks and benefits of each proposal.

1.2.7 Recommendations, Decision, and Approvals

Based on the evaluation, a rank ordered list of the most competitive proposals will be prepared and forwarded to the Third Frontier Commission. A proposal must be included on the list to be considered for funding. The Third Frontier Commission shall take into account the evaluations made during the review process, the staff recommendations, and shall exercise its independent judgment in making its selection. The funding decisions of the Commission are final. If requested, Lead Applicants must attend the Third Frontier Commission meeting when proposals are considered for funding.

All Lead Applicants will be notified in writing of the outcome of their application after the Third Frontier Commission makes its decisions.

1.2.8 Grant Agreement Preparation

Following selection by the Commission, ODOT prepares the final terms of the grant award. The grant agreement may include changes to the proposal and budget due to evaluation findings, funding changes, or other reasons.

1.2.9 Award

A grant will be awarded based on the proposal as amended, budget, and any conditions set forth by the Third Frontier Commission. The Grant will remain open for the duration of the project plus a three-year reporting period when annual reports are required.

Grantees are expected to complete the project as described in the proposal as funded and as amended. ODOD will assign a Project Administrator who will work with the Grantee throughout the duration of the project. ODOD management and Grantees will develop a series of performance metrics that will be used to measure progress on the grant. Grantees will be required to utilize the ODOD Sub-grantee Performance Evaluation System (SPES) to submit required status and progress reports, invoices, document achievement of milestones, report success stories, and relay other matters of interest to the ODOD.

1.3 Mandatory Compliance

The following restrictions apply to all Third Frontier projects:

1.3.1 Human and Animal Research

The Lead Applicant organization's human subject policies and procedures must be compliant with the Code of Federal Regulations Title 45, Part 46. The Lead Applicant organization's animal subjects policies and procedures must be compliant with US Code Title 7, Sections 2131-2156.

1.3.2 Human Embryo Research

As required under Executive Order 2005-12T dated August 19, 2005, proposals involving human embryos will be considered for funding only if the project adheres to the criteria announced by President Bush on August 9, 2001. BRCP funds may be used for research on existing human embryonic stem cell lines as long as prior to the President's announcement (1) the derivation process had already been initiated and (2) the embryo from which the stem cell line was derived no longer had the possibility of development as a human being. To facilitate this research, the National Institute of Health (NIH) has created a Human Embryonic Stem Cell Registry that lists the human embryonic stem cells that meet the eligibility criteria. Requests for Biomedical Commercialization funding involving human embryo research must cite a human embryonic stem cell line that is listed on the NIH Registry.

1.3.3 State Compliance

Lead Applicants selected for award will be asked to sign a grant agreement in which the Grantee must affirmatively covenant that it does not owe: (1) any delinquent taxes to the State of Ohio (the "State") or a political subdivision of the State; (2) any moneys to the State or a state agency for the administration or enforcement of any environmental laws of the State; and (3) any other moneys to the State, a state agency or a political subdivision of the State that are past due, whether the amounts owed are being contested in a court of law or not.

The grant agreement will further require the Grantee to comply with all applicable federal, state, and local laws in the performance of the Project. Grantee must accept full responsibility for payments of all unemployment compensation, insurance premiums, workers' compensation premiums, all income tax deductions, social security deductions, and any and all other taxes or payroll deductions required for all employees engaged by Grantee on the performance of the work authorized by this Agreement.

1.3.4 Other Compliance

In accordance with ORC 2919.14, funds cannot be used for research involving tissue obtained from aborted fetuses. Additionally, following the intent of a March 4, 1997 Presidential Memorandum, State funds will not be used for cloning of human beings.

2 Background

2.1 The Third Frontier Project

The Third Frontier Project (TFP) represents the State's largest-ever commitment to expanding Ohio's high-tech research capabilities, promoting technology commercialization and innovation, creating technology based businesses, and creating high paying jobs for generations to come. The ten-year, \$1.6 billion State of Ohio initiative is designed to:

- Build world-class research facilities;
- Support early stage capital formation and the development of new products;
- Finance advanced manufacturing technologies to help existing industries become more productive.

The Third Frontier Commission (TFC) has overall responsibility for the TFP. In addition, a 16-member Third Frontier Advisory Board of leaders from industry, academia, and government was created to advise and counsel the TFC.

The TFC and Advisory Board developed strategic operating guidelines that provide the framework for awarding grants:

- Support the best the State has to offer, not just regions of the State;
- Anticipate and act on market opportunities;
- Demand strong industry involvement;
- Invest at the intersections of core competency areas;
- Recruit world-class talent and high growth companies;
- Engage regional partners;
- Emphasize accountability and use of metrics.

These strategic operating principles should be consulted and applied in the formulation of all proposals submitted for TFP awards.

The TFC also made the decision to focus Third Frontier investments in the following priority areas: 1) building world-class applied research capacity; 2) entrepreneurial assistance to accelerate formation and attraction of technology-based businesses; 3) product innovation; and 4) marketing of Ohio's competitiveness. Further, the Commission determined that TFP should be focused in the

Information Technology, Instruments-Controls-Electronics, Biosciences, Advanced Materials, and Power and Propulsion technology areas.

For fiscal years 2006 and 2007, Third Frontier resources will be used to fund a variety of grant programs designed to promote technology based economic development in Ohio. Information and RFP materials for each program can be obtained at the Third Frontier website.

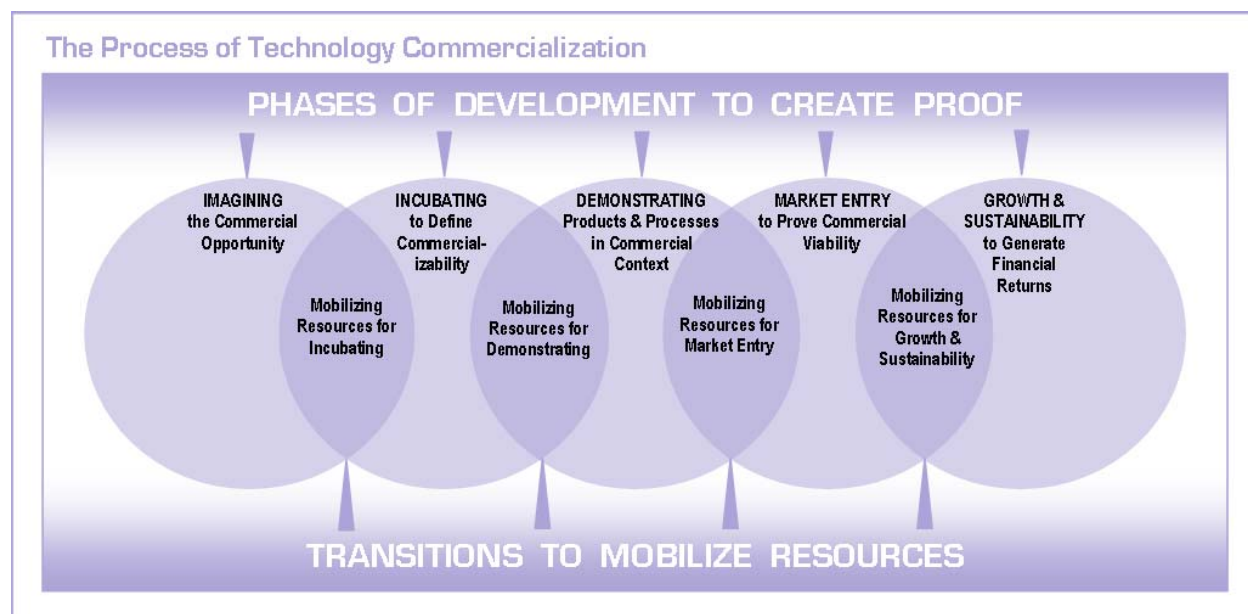
Science and technology activities within the Ohio Department of Development, the Ohio Board of Regents, and the Ohio Air Quality Development Authority represent a substantial annual investment of State funds for science and technology in addition to TFP funding. Lead Applicants for TFP funding are encouraged to be aware of the resources represented by these programs and to incorporate them into their proposals where appropriate.

Other Ohio programs that complement Third Frontier activities include: the Thomas Edison Program, Ohio Coal Development Office, Research Incentive, Action Fund, Hayes Investment Fund, Eminent Scholars, Computer Science and Graduate Education, Ohio Aerospace Institute, the Ohio Agricultural Research and Development Center, Ohio Supercomputer Center, Third Frontier Network, OhioLink, and the Third Frontier Industrial Intern program. Lead Applicants are encouraged to use these resources, as appropriate, in their proposals.

2.2 Commercialization Framework

All Third Frontier Programs share a common goal – to promote technology-based economic development within Ohio by funding activities that move technology from ideas to market. This goal requires the State to design programs, evaluate proposals and projects, leverage resources, and provide management oversight within the context of a commercialization framework. The Ohio Department of Development has adopted a technology commercialization framework based on an extensive literature review on the subject.¹ The framework is depicted in Figure 1.

Figure 1. Technology Commercialization Framework



¹ BizLogx LLC, "The Technology Commercialization Framework", September 30, 2004.

Key characteristics of the framework include five major phases of commercialization and the transitions that must occur as a technology moves from phase to phase. Within each phase, work must be accomplished to produce the technical and commercial proof or evidence required by the resource providers who may fund the next phase. A description of these phases is presented in figure 2.

Figure 2. Summary of Commercialization Phases

Phase	Technology-Related Activities	Status of Commercial Concept
IMAGINING	The <i>Imagining Phase</i> begins with the techno-market insight - the linking, if only in concept, of a technology and a market opportunity. Activities focus on the generation of a “proof of principle”, generally defined as the demonstration in a laboratory setting of critical components of the technology.	During the <i>Imagining Phase</i> , the commercial concept is highly speculative. Often, the concept is only supported by conjecture regarding the potential of the technology and the market opportunity.
INCUBATING	The <i>Incubating Phase</i> activities focus on defining product performance specifications, and then validating technical capabilities in the context of proposed performance specifications.	During the <i>Incubating Phase</i> , the participants begin to validate the commercial concept primarily through secondary research. Because the commercial concept lacks market confirmation and is still highly speculative, written descriptions of the business are often titled “Commercial Concepts” rather than “Business Plans”.
DEMONSTRATING	During the <i>Demonstrating Phase</i> , project teams attempt to generate technical proof within a more defined commercial context. Activities focus on product development and market acceptance. Working prototypes, performance to commercial specifications, and manufacturability within defined cost and quality standards characterize the goals on the technical side. On the market side, <i>Demonstrating Phase</i> activities focus on generating evidence that customers will buy the product.	During the <i>Demonstrating Phase</i> , participants focus on generating data regarding market acceptance – that customers will buy the product at or near the price required by the business plan. Participants then use the characteristics of the product / prototype and the market-generated data to create a business plan that defines the commercial opportunity.
MARKET ENTRY	In the <i>Market Entry Phase</i> , participants enter the market to validate the commercial opportunity. Activities are those typically associated with an ongoing business – production, service, distribution, sales and marketing. The technology is embedded in a product or service and the opportunity has attracted the resources necessary to expand marketing, sales, and service.	In the <i>Market Entry Phase</i> , the opportunity is generating direct feedback from the market, measured in terms of sales, revenue, margins and growth.
GROWTH & SUSTAINABILITY	The <i>Growth & Sustainability Phase</i> involves the execution of a comprehensive business plan to increase market share and/or total revenue and profit in context of a self-sustaining business.	In the <i>Growth & Sustainability Phase</i> , the goals, value creation mechanisms and resource providers are those generally associated with a thriving business seeking to identify opportunities for growth and profitability.

Given the multiple phases and non-linear nature of commercialization process, a challenge is to answer the question – “Is progress being made?” To address this critical issue, a measurement system is required. The measurement framework includes three categories of metrics – Level A Metrics, Level B Metrics, and Level C Metrics.

- *Level A Metrics* are synonymous with a Transition. The occurrence of a Transition (attracting the resources required to engage in the next Phase of commercialization) is the best evidence that a project is successfully progressing towards commercialization.
- *Level B Metrics* are tangible evidence that a project is on the path to achieving *Level A Metrics*. As an example, a *Level A Metric* for a project in the *Demonstrating Phase* would be an investment by a venture capital fund to provide the resources necessary to engage in *Market Entry Phase* activities. A *Level B Metric* for this project might include the receipt by the project of a term sheet detailing a potential investment, or even a commitment by the venture capital firm to engage in a defined set of diligence-related tasks within a relatively short time period.
- *Level C Metrics* measure activities and are the equivalent of “project milestones.” These activities (e.g. hiring qualified personnel, preparing patent applications, preparing a business plan, achieving certain technical milestones, etc.) are often critically important, but do not represent evidence of progress toward the goal of Transition or commercial success. Rather, they indicate that the participants are executing their plan.

In evaluating proposals, the ODOD will assess the Lead Applicant’s integration of the A, B, and C Metrics concept into day-to-day project management and into the performance evaluation sections of the proposal. The Commercialization Framework will be discussed at the Bidder’s Conference prior to proposal submission. Post-award, the ODOD will conduct a series of meetings to help Lead Applicants integrate the metrics framework into their actual project execution. The ODOD, through the grant agreement and the activities of our program administrators, will manage grants and investments in accordance with an agreed set of A, B, and C metrics.

A more extensive discussion of the Commercialization Framework is found on the Third Frontier web site at www.thirdfrontier.com.

2.3 Determining Commercialization Phase

Most Third Frontier Programs are focused on the imagining, incubating, and demonstrating phases of the commercialization framework. The following guide is useful in identifying the type of work normally associated with these phases and may be helpful to Lead Applicants in determining into which phase their work falls.

Imagining Phase

- Developing an understanding of the basic science behind the technology.
- Developing a firm understanding about how and why the technology works.
- Developing a laboratory proof of principle.
- Assessing the work needed to achieve reduction to practice.
- Investigating the Lead Applicant’s freedom to operate within its targeted markets and constraints associated with existing patents or other forms of IP.
- Developing its own intellectual property strategy for this technology.

Incubating Phase

- Performing work to understand and adapt the technology to market needs.
- Confirmation that the company has the freedom to operate.
- Acquiring adequate IP protection for the technology and related applications to allow for market introduction.
- Completing the reduction to practice and producing a working model based on well-defined and unchanging specifications.
- Producing product designs and production processes that support the manufacture of a reliable product.

Demonstrating Phase

- Finalizing technical product specifications.
- Developing a well-defined stage gate process to support the management of the design and development process.
- Establishing the reliability of the technology as embedded in a commercial product.
- Incorporating feedback from lead users into the design based on alpha and beta versions of the technology.
- Producing pilot runs that demonstrate functionality consistent with the product concept.
- Securing facilities adequate for near-term production.

3 Program Description**3.1 Purpose**

The purpose of the Wright Center of Innovation in Engineering and Physical Sciences (WCI) Program is to move Ohio toward a position of international leadership in well-defined technology disciplines that support the expansion of specific existing or emerging industries important to the growth of Ohio's economy. The WCI program is intended to accelerate the pace of technology research in Ohio and enhance the efficiency with which it is commercialized in Ohio. As a result of the research and commercialization activities, the WCI projects are expected to contribute to business formation in Ohio, wealth accumulation in Ohio, and jobs for Ohioans. Successful projects have been those that are able to leverage the state award with other sources of funding and advance selected products through the commercialization process.

Major features of the WCI that differ from previous years are:

- This RFP is only for Wright Centers of Innovation in Engineering and the Physical Sciences and does not cover biosciences and biomedical.
- A separate Intellectual Property Disposition Plan is no longer required, but the Lead Applicants are advised that IP management must be part of the commercialization plan
- There is no limit to the number of proposals that may be submitted by any one lead organization

- Proposals from previously awarded Wright Centers of Innovation will be evaluated using the same evaluation factors as new proposals and, additionally, will be evaluated on their performance
- Proposal evaluation will weigh commercialization experience and plans equal to scientific soundness.
- Funds available for awards has increased and the opportunity to request operating dollars is available
- Funding may now be used for specialized personnel to establish an endowment for an Eminent Researcher/Entrepreneur.

3.2 Goals and Objectives

The specific goal of the WCI program is to make Ohio a national and international leader in selected engineering and physical science oriented research and development fields that leads to creation of new jobs and business opportunities in Ohio from the commercialization of materials, components, and systems. A WCI will be of sufficient scale and quality to move Ohio toward a position of international leadership. A Center is intended to be a statewide resource and not primarily a regional resource.

Wright Centers of Innovation (Centers) are intended to be “large-scale” projects that will allow scientists to tackle complex research issues that cannot be addressed by a single investigator or institution. The project must establish a seamless connection between multiple organizational efforts to facilitate and expedite the commercialization of research projects. The proposed Center must be mission and goal-oriented, with defined endpoints and deliverables that create infrastructure and scientific capacity to enhance future research endeavors.

The specific objectives of the WCI Program are:

- To build capacity and to conduct applied research related to engineering themes where such research has the potential for discovering and developing new technological processes and products;
- To advance the commercialization of processes and products;
- To secure additional funding to commercialize promising technologies;
- To produce the research knowledge and technical and business information needed to secure additional and sustainable funding for the Center;
- To build a sustainable organization that assembles total operating and capital resources on the order of \$30 to \$70 million over the three year period of performance and is positioned to scale up after this initial investment period to levels measured in hundreds of millions of dollars per year.

These objectives are designed to ensure that each WCI conducts research that will ultimately result in technologies that successfully move through the commercialization process. A WCI is required to develop a business model that will sustain its operation and growth. The business model proposed must reflect the goal of sustaining an internationally recognized center of expertise. The model should combine various methods for securing the operating and future capital requirements for the

WCI such as winning federal grants, selling industry sponsored research and development, achieving commercial product development, and performing testing and other fee for services.

The goals and objectives must provide evidence that the Lead Applicant intends to provide a mix of services that may include achieving commercial success of new processes and products, to provide assistance to companies seeking to utilize advanced technology based materials, components, and systems, and to realize sustainability which means being able to continue the essential activities of the Center through the income derived from grants, license fees, royalty revenue, fees for services, and equity positions taken in new companies. The “Level A” measure of sustainability will be the amount of dollars received by the Center to conduct its work, the sources of these funds, and the potential for maintaining the flow of funds over time. In the commercialization area, the “Level A” metrics for this program will be the successful acquisition of resources that come from organizations that: 1) have not previously invested in the project (new); 2) are knowledgeable investors with the ability to assess the commercial and technical merits of the projects (smart); and 3) represents a significant investment on the part of the investing organization (meaningful). “Level B” metrics will be tangible evidence that progress is being made toward acquiring these resources. Such evidence includes but is not limited to a term sheet from an investment source, notification of a federal grant award to cover expenses of performing regulatory testing, or strong indications of further internal organization resource commitments. “Level C” metrics will include all the scientific, technical, and business case evidence that the resource providers will need to make resource commitments. These metrics may include, but are not limited to, achieving acknowledged success with clinical trials, securing intellectual property protection, and building the business model for how the drug, device, diagnostic or therapeutic will be brought to the market.

3.3 Eligibility

3.3.1 Technology Subject Matter

Proposals may address any of the following opportunity areas or combinations thereof: Information Technology, Instruments-Controls-Electronics, Advanced Materials, and Power and Propulsion. Proposals for topics in Energy Storage and other Advanced Energies can be submitted under the Power and Propulsion category. Proposals must have a specific engineering or physical science platform technology, be directed toward commercialization of materials, components, and systems, and to assisting industrial partners in utilizing technologies to gain competitive advantages. The focus of this RFP is on technologies that do not require Food and Drug Administration involvement for their commercialization.

The focus of a WCI is on translating research at the Center into customer driven needs that can be met through new product development and utilization. The proposal must set forth a plan to advance the quality of research and improve the efficiency with which research is translated into cutting-edge products and other commercial opportunities in targeted technologies and industries important to Ohio. The proposed Center must expand existing, well established research competencies through the creation of unique collaborations and aggressive investment in world-class talent, facilities, equipment, and development funds to support scientifically and commercially promising lines of research.

The proposal must also address how the Center will organize, access and deliver critical factors that accelerate the pace of commercialization including product design and engineering, testing and demonstration, use of specialized facilities, acquisition of early-stage

capital, recruitment of technical and management talent, and professional support such as marketing and business planning.

The proposal must provide evidence that the proposed Center has been benchmarked against the national and international leaders in the chosen fields and that the proposed Center will be competitive with the best in class. The proposals cannot consist of a group of independent research projects, or a “mix-and-match” approach to proposal formulation. Rather the proposal must present plans for building upon the collaborative efforts of participants to address relevant problems with an approach designed to lead to commercially viable outcomes including innovative new materials, components, and systems and start-up technology-based companies in Ohio. The Center must realize near term (3 years) development and commercialization with the potential of ongoing commercialization beyond the three-year project period.

Existing facilities, equipment, and programs supported by the State of Ohio and others within Ohio must be appropriately integrated into the Center’s structure and activities, rather than creating redundant or duplicative new capacities.

Wright Center of Innovation in Engineering and Physical Sciences award can be used for acquiring specialized capital to facilitate research and commercialization and for performing direct commercialization activities for processes and products. A portion of a WCI Award may be used for specialized personnel that can include the establishment of an endowment for an Eminent Researcher/Entrepreneur. Such an initiative would focus on an established engineering research endeavor that, with the leadership of a nationally recognized scientist and entrepreneur, will likely gain international visibility and provide direct support to a continuing large scale engineering program. Such use of this Award is restricted to the establishment of an endowed chair in a university, or a start/support package for a researcher residing primarily in a company’s research and development facility.

3.3.2 Lead Applicant

The Lead Applicant must either be an Ohio state-supported or state-assisted institution of higher education or a nonprofit corporation with a principal place of business in Ohio that provides access and use of the facilities or equipment to a collaborating Ohio state-supported or state-assisted institution of higher education. (See Appendix B for Definitions) A nonprofit organization receiving capital funds must have a formal Joint Use Agreement with an Ohio state-supported or state-assisted institution of higher education.

Previous award recipients of any Third Frontier Project Award are eligible to submit a proposal under this RFP. Such proposals will be scored and evaluated using the same evaluation criteria as proposals from new Lead Applicants. Additionally, they will be evaluated against the progress achieved with the existing WCI Award.

However, since a WCI Award consists of capital dollars, it is incumbent on the renewing organization to make a compelling case for their requirement for additional capital infrastructure to the existing Center. If additional capital is not needed, existing WCIs may apply for the Research and Commercialization Program. A copy of the RFP is available at www.thirdfrontier.com.

3.3.3 Collaborators

Each proposed WCI is required to have strong participation by private sector businesses. A Board of Directors preferably led by a private sector person and with private sector majority representation must be formed for each Center to set the strategic agenda and oversee management and operations. Proposals must demonstrate that the Center will build on business capacity and contribute to the economic growth of the State. Industrial collaborators that will directly benefit from the research of the Center must be engaged in the development of the Center, have governance/management responsibility with the Center, and make financial contributions to the Center's operations. The involvement of the private sector must constitute a true partnership in terms of the sharing and contribution of resources and in terms of joint decision-making. The control and autonomy usually afforded a lead institution in directing a project must be mitigated by the requirement that the decisions impacting the Center's governance, direction and scope must be made with the collaborators.

3.4 Funding

3.4.1 Use of Funds

Funding for the WCI will come from Wright Capital Fund and from the Third Frontier Research and Development Fund established by Am. Sub. SB 236. All WCI proposals must request capital funding between \$10 and \$20 million. Lead Applicants that do not propose capital funds of this magnitude should submit proposals under the Research and Commercialization Program RFP that is available at the Third Frontier website.

ODOD anticipates making up to 3 awards under the WCI program at a level of \$15 to \$25 million per award. This level includes both capital dollars and dollars proposed to implement specific research and commercialization activities.

At least \$10 million of each WCI program awards must be used to acquire, renovate, or construct facilities and purchase equipment that is part of property or facilities owned by an Ohio state-supported or state-assisted institution of higher education or by a nonprofit corporation that provides access and use of the facilities or equipment to a collaborating Ohio state-supported or state-assisted institution of higher education. If the facilities or equipment will be owned, or will be part of facilities owned, by a nonprofit corporation, the corporation must enter into a Joint Use Agreement with a collaborating Ohio state-supported or state-assisted institution of higher education that will contain the elements set forth in Ohio Administrative Code Section 3333-1-03 (E). In no case can capital assets acquired with funds awarded through this RFP be owned by a for-profit entity.

The remainder of the proposed WCI program budget (\$5 to \$8 Million) can be used for non-capital expenses associated with the research and commercialization activities. These funds are not subject to the provisions of the Joint Use Agreement.

3.4.2 Cost Share Requirements

3.4.2.1 Magnitude

The monetary value of the cost share commitment must be at least equal to two dollars for every dollar of capital requested and one dollar for every dollar of

operating funds requested. All cost share must be identified in the proposal by amount, proposed use, source, and method of valuing if in-kind cost share is used. Lead Applicants may exceed the minimum requirement for cost share ratio but that cost share ratio becomes a requirement of the grant agreement, regardless of the award amount

Cost share must be documented on the budget forms and in a letter from the organization contributing the cost share signed by an official authorized to commit the organization. Cost share cannot merely reiterate currently provided organizational resources, such as currently used space or equipment. The cost share must represent a specific new commitment to this proposed program.

In the evaluation of the proposals, the nature and amounts of resources available for cost share will be considered and the State seeks proposals with cost shares that have flexibility with respect to its use (cash being the most flexible cost share commitment). Preference will be given to proposals that pledge discretionary, unrestricted, and unallocated cash for at least 20 percent of the cost share. The cash must be available for any purpose deemed appropriate by the Lead Applicant and must appear on the financial records of the Lead Applicant. Proposals with such cash cost share will be given 5 additional evaluation points during the evaluation.

3.4.2.2 Sources

Cost share must be for allowable costs per OMB Circulars A-21 and A-110 and these costs must be verifiable and auditable. Cost share must be directly in support of the Program Plan rather than coincidental or related/similar allocations. Cost share must be necessary and reasonable to the project objectives. Cost share cannot be used if it has also been, or will be counted towards satisfying a cost share requirement of another award of grant funds. Funds received from previously awarded Third Frontier projects are not eligible to be used as cost share. Other state sources of cost share are allowable, however proposals having a higher percent of non-state cost share are preferred. If the organizations have a published indirect cost rate, unrecovered indirect costs (the difference between 10 percent and the published rate) can be used as cost share. Without a published rate, this program will allow duplication of the 10 percent rate that becomes an allowable expense used as cost share. Only indirect costs not fully recovered against State operating funds requested are eligible to be used as cost share. The expense of the cost share must take place during the Project Period of the RCP award. The cost share must be charged to resources of the Lead Applicant, collaborator, and/or third party and documented within the financial books of the Lead Applicant, collaborator, or third party contributor.

Third Frontier funding may not be used as cost share and funds awarded under this RFP may not be used as cost share against other Third Frontier projects. Other state sources of cost share are allowed, as are in-kind contributions. However, proposals having a higher percentage of cash and non-state sources of cost share of any kind relative to the total budget will be give greater consideration in the evaluation of the budget plan.

3.4.2.3 Constraints

It is solely the responsibility of the Lead Applicant to have adequate funds to cover the expenses of the Center that are not covered under the research commercialization project activities.

Proposals funded will be held responsible for the cost share ratio proposed (cost share pledged divided by state fund requested) regardless of the actual award amount. If a Lead Applicant proposes a higher cost share ratio than is required, the Lead Applicant and its collaborators may not, at any time later, lower their cost share ratio offer back to the minimum levels.

A portion of the cost share must be committed by the Lead Applicant and Collaborator Organizations. In the evaluation of proposals, the amount of committed resources will be taken into account. Cost share will be reviewed and evaluated on whether it is cash or in-kind; state or non-state funding; allocable and relevant to the Center's support and operation, and a tangible and auditable cost. Cost share committed by Collaborator Organizations must be evidenced by letters of commitment submitted with the proposal. No credit will be given in the evaluation process for commitments of cost share that do not have a letter of commitment or if the letters are missing any required information.

3.5 Term of Project

3.5.1 Project Period

The WCI Grant Period will be six years. The first three years will be the Project Period during which the active work funded by the grant will take place. During the remaining 3 years, the grantee will be required to submit an annual report detailing the overall status of the research and commercialization activities, and the economic impacts of the Center.

3.6 Reporting Requirements

Awards will require mandatory reports that will be finalized in the grant agreement. A WCI will require, at minimum, a quarterly performance metric report, expenditure of matching funds report to accompany invoices to the State, periodic success stories, and the post-grant annual reports referenced above.

The Lead Applicant will be required to submit progress reports and invoices through mechanisms determined by ODOD.

3.7 Commercialization Requirements

Each proposal must contain a commercialization plan that is appropriate for the phase of commercialization of the various technologies that are the subject matter of the proposal. The commercialization plan must address the state of each technology being readied for commercialization. The plan should cover the current stage of commercialization, a statement of the total resources required to produce the technical and business evidence required to move the technology forward, an indication of what resource providers will finance the next stage of

commercialization and what level of resources will be required. The plan should also discuss the long-term commercialization strategy model that will be used to bring the technology product into the market.

3.8 Past Performance

Proposals from previous Third Frontier award winners must include a section on their performance history with their previous Third Frontier award if this proposal is an extension of that previous award or involves a closely related technology to the technology area of the previous award. The Lead Applicant should discuss the objectives, progress, and achievements of the previous award. Specific commercialization successes, leverage received, companies started and attracted, and employment impacts should be noted. Any major technical accomplishments can be highlighted in summary fashion. The past performance should be adequate to enable an external review who is not familiar with the previous award to assess progress.

4 Evaluation Criteria

Only the most meritorious proposals are sought for funding. Proposals passing the administrative review will be evaluated based on the responsiveness to all the requirements of this RFP and to the evaluation criteria described in the following sections. External reviewers qualified to assess both the technical and commercialization aspects will evaluate the proposals. The Commercialization and Scientific Merit criteria are weighted equally and each are more important than the criteria related to Leveraging Funds. Proposals that contain at least 20 percent of the cost share as discretionary, unrestricted, and unallocated cash appearing on the financial records of the Lead Applicant will be given an additional 5 points in the evaluation.

4.1 Commercialization Potential

Factors to be evaluated within the Commercialization Potential area include the following.

- The proposed capital acquisition, research and associated projects have a high probability of successfully developing materials, components, systems and products within 3 years and with further commercialization potential beyond that time period.
- The proposal must deal with technology based products that have existing proof of concept.
- The products expected from the proposed projects will have a beneficial impact on jobs, income, and business formation or support in Ohio
- The technologies and products from the proposed projects have or will have a competitive advantage over existing and alternative technologies that can meet market needs
- The proposal clearly describes the strategies and approaches to developing and commercializing the products resulting from the research and commercialization projects
- The proposal indicates that the Lead Applicant understands the commercialization process, resource requirements for commercialization, and resource providers

- The proposed team has experienced personnel who will handle regulatory and approval processes that will enhance the potential for commercial benefits
- The proposed team has a strong intellectual property management plan that provides assurance that commercialization will benefit Ohio
- The collaborations between institutions are clear and reasonable with respect to future commercial authorities, responsibilities, and roles
- The proposed project will lead to enabling technologies and further discoveries
- The Lead Applicant and its collaborators must have the financial capacity to finance the commercialization of the technologies or have a plan to raise necessary capital.

4.2 Scientific Merit

Factors to be evaluated within the Scientific Merit include the following.

- The proposal team represents an existing, well-established program with national prominence
- The research projects represents scientific excellence to the degree of being internationally competitive and will advance scientific knowledge
- The conceptual framework, design, methods, and analyses are adequately developed, well integrated, and appropriate to the aims of the project
- The Lead Applicant acknowledges areas of potential problems and has identified alternative tactics to resolve the problems
- The proposed projects employ novel concepts, approaches or methods and describes aims that are original and innovative
- The investigators are appropriately trained and well suited to carry out this work, as are the other researchers on the project
- The collaborative effort will likely produce a synergistic effect to further enhance the outcomes of the project
- There is good evidence of strong institutional support and access to necessary resources
- The proposal provides strong evidence that the Lead Applicant can successfully recruit or otherwise involve the highest quality research and technical talent available in the defined technology focus areas of the Center.

4.3 Implementation Factors

Factors to be evaluated within the Implementation Factors include the following.

- The proposed cost share emphasizes discretionary, unrestricted, and unallocated cash and non-state sources

- Specific Ohio industrial collaborators will directly benefit from the research focus of the Center and have made tangible financial commitments to the Center
- Ohio industry, professional service entities, and representatives of the capital community are identified and have agreed to participate in the Center's activities
- The Center and its proposed projects are of sufficient importance to attract the attention and interest of Federal agencies and leverage additional funds
- The commercial potential of the project is sufficiently interesting and appealing to attract the attention of private investors
- The commercialization and continuation plans are well developed and identify realistic sources of additional funding
- The sources of additional/future funding are realistic and the proposal provides evidence that the Lead Applicant understands the decision criteria of future investors
- The Principle Investigators and other team members have demonstrated success in attracting significant sponsored research funds
- The Principle Investigators and other team members have demonstrated success in attracting private investment capital for commercializing technology
- The proposal appropriately integrates existing facilities, equipment and programs supported by the State of Ohio
- The continuation plan presents a credible scenario for the Center to continue operating beyond the three-year funding period with an increasing fraction of operational support coming from non-state sources.

4.4 Performance History on Previously Funded Third Frontier Projects

If the proposal is from an existing Third Frontier awardee, the following additional factors will be used.

- Has the previous funded WCI work resulted in significant additional funding for directly related research?
- Has the previous work resulted in commercial progress of new technical services, technical processes, materials, components, and systems?
- Has the previous work resulted in the identification and protection of intellectual property?
- Has the previous work resulted in any national or international, refereed awards and recognitions for the research team or members of the team?
- Has the team working on the existing award met the deliverables, milestones, and commercial successes expected from their existing project?
- Has the team working on the existing award effectively utilized the resources and talents of their collaborators and built a sustainable team?

- Has the cost share pledged for the previous award been delivered according to plan?

5 General Proposal Requirements

5.1 General Instructions

- Submit Letter of Intent and receive a Letter of Intent Number from ODOD.
- Submit separate proposals for each proposed project.
- Proposals must be submitted in the following manner:

One original paper copy marked as “Original” and one additional paper copy marked “Copy” and two CDs each containing a PDF and a WORD compatible file of the proposal. Do not include multiple PDF or WORD compatible files containing individual proposal sections. The proposal must be completely contained in one PDF and one WORD compatible file.
- Proposals must be received at the location specified below before the RFP closes. Proposals may not be submitted by fax or e-mail.

Ohio Department of Development
Technology Division
77 South High Street
25th Floor
Columbus, OH 43215
Attention: “Wright Centers of Innovation in Engineering”
- Proposals are to be submitted on 8.5 x 11-inch paper.
- Margins must not be less than $\frac{3}{4}$ of an inch on all sides.
- Font must be 10 point or larger with no more than 6 lines per inch.
- All pages must be numbered consecutively using the format “Page # of total number of pages” (e.g. Page 2 of 25).
- The proposal title, Lead Applicant name, and Letter of Intent number must appear at the bottom of each page.
- Proposals should not include color figures that cannot be understood when photocopied in black and white.
- The first page of the proposal must be the Application Information Page.
- Do not include a cover other than the Application Information Page.
- Proposals must be stapled or clipped once in the upper left hand corner and must not be bound.

5.2 Trade Secrets

Lead Applicants are strongly discouraged from including any information that qualifies as a Trade Secret in the proposal.

All information submitted in response to this RFP is public information unless a statutory exception exists that exempts it from public release. If you include Trade Secret Information in your proposal you must:

- Identify each and every occurrence of the information within the proposal with an asterisk before and after each line containing Trade Secret Information and underline the Trade Secret Information itself;
- Check the “Trade Secret Information Included” box on the Lead Applicant Information Page; and
- Include a page immediately after the Application Information Page that lists each page in the proposal that includes Trade Secret Information and the number of occurrences of Trade Secret Information on that page.

To determine what qualifies as Trade Secret Information, please refer to the definition in the Ohio Revised Code Section 1333.61(D):

- (D) “Trade Secret” means information, including the whole or any portion or phase of any scientific or technical information, design, process, procedure, formula, pattern, compilation, program, device, method, technique or improvement, or any business information or plans, financial information or listing of names, addresses, or telephone numbers, that satisfies both of the following:
- (1) It derives independent economic value, actual or potential, from not being generally known to, and not being readily ascertainable by proper means by, other persons who can obtain economic value from its disclosure or use.
 - (2) It is the subject of efforts that are reasonable under the circumstances to maintain its secrecy.

Non-disclosure agreements are required of all non-ODOD persons who may have access to proposals containing Trade Secret Information.

5.3 Order and Content of Proposal Sections

5.3.1 Applicant Information Page

The first page of the proposal must be the completed Applicant Information Form found in the Appendix A to this RFP.

5.3.2 Trade Secret Information

This section of the proposal must disclose any Trade Secret Information included in the proposal. Follow the instructions in Section 5.2 of the RFP.

5.3.3 Applicant and Collaborator Information

Complete and include the Applicant Contact Information form. Refer to the definitions for an explanation of each position for which information is requested. One individual may serve in more than one capacity.

Complete and include the Collaborator Information Form for each Collaborator. Letters of Collaboration should appear in an Appendix to your proposal.

5.3.4 Abstract

Prepare an abstract that summarizes the proposed project and its expected commercial and technical outcomes. The Abstract should minimize use of jargon and technical language and be written so that a non-technical person can understand it. The Abstract may be used, in whole or part, in public documents including press releases. The Abstract may not contain any Trade Secret information.

5.3.5 Table of Contents

Prepare a Table of Contents with detail for three levels of headings in your proposal. Lead Applicants must use the outline provided by ODOT for their level 1 and 2 headings. The Table of Content should also include a listing and page number for Charts, Figures, and Tables.

5.3.6 Proposal Narrative

The Narrative must address all the following items in the order presented. In presenting the Narrative information, the Lead Applicant must demonstrate that the Center is defined by the projects (commercialization, research, development, design, and demonstration) that it performs. The capital funds being requested must be shown to relate to the Center's strategy and to its proposed research and commercialization plans.

- **Understanding the Program Intent.** This section must demonstrate the Lead Applicant's understanding of the purposes of the Third Frontier Program and how the proposed project is consistent with these purposes. The proposal should address the relationship between product and process commercialization and the activities being proposed. The proposal must demonstrate that the proposal is responsive to the long-term purposes of the Third Frontier and its programs.
- **Problem Statement.** This section must describe the technical and commercial challenges to be addressed in the proposed projects and why solutions to these challenges will increase the likelihood of successfully achieving commercialization and other program objectives and goals. Evidence that the Lead Applicant understands the eventual customer needs and performance requirements is desired.
- **Goals and Objectives.** This section must clearly state the goals and objectives of the proposed Center and the proposed projects. Projects should be related to the goals and objectives of the Center. The goals should cover both the long-term commercialization purposes of the projects and other longer-term goals of the Center that are beneficial to Ohio. The objectives should be related to the research, development, design, and demonstration activities that will be performed and how

they are expected to provide the evidence and proof needed to carry the technology forward into phases of the commercialization framework. The objectives should be expressed as Level A, Level B, and Level C metrics discussed in Section 2.2 and at the Third Frontier web site (www.thirdfrontier.com).

- **Technical Approach.** This section of the proposal must discuss the overall activities that are proposed to meet the project's goals and objectives. The proposal should describe in detail the specific research, development, design and commercialization activities that will be undertaken by the WCI. Identify all major lines of research, emphasizing what, if any, operational funds being requested will be used for. Describe the significance of each line of research to advancing the technical focus of the Center and define the Ohio industry sectors that will benefit from this research. The proposal should discuss the expected technology developments from each line of research and the commercial opportunities for each. Important research techniques, methods, facilities, and equipment to be used in the proposed project should be discussed and compared to alternative approaches. Key factors that will affect the success of the project should be identified as well as significant risk factors. The Lead Applicant may elect to organize the technical approach according to different areas of investigation.
- **Work Plan.** This section of the proposal must identify all the tasks and activities that will be performed for each area of investigation. The tasks should be described in terms of their specific objectives, approach, resources and outcomes. The Work Plan should be detailed enough to provide a clear indication of how progress will be made.
- **Center Construction.** This section must describe any facilities and equipment that are needed for the WCI to become operational. Provide milestones and timelines for completing facilities acquisition, construction, and purchase and installation of equipment. Discuss how the Center's activities will progress while acquisition, construction, or renovation activities take place.
- **Deliverables.** This section must identify the deliverables from the proposed project. Deliverables will include tangible evidence of commercialization and technical progress, mandatory reporting required by ODOD, and other deliverables that the Lead Applicant deems significant for measuring progress.
- **Schedule.** The proposal must contain a schedule that graphically displays the duration of tasks, interactions between the tasks, and the timing of deliverables and other key milestones. The schedule should be based on weeks or months from authorization to proceed, rather than any firm, fixed starting date.
- **Organizational Structure.** Describe the proposed WCI's organization by defining each subunit, the role of each in the Center, and the relationship each has to the Organization and all collaborators. Provide a one-page chart to graphically describe the organization structure of the proposed Center.

If the Center is to be formed as a new legal entity, describe the type, the process for establishing the new entity, and the anticipated date of formation.

Describe the Board of Directors of the Center, its duties and responsibilities, its relationship to the Lead Organization and Collaborator Organizations, and its

composition.

Discuss how the Center will be able to capture financial data that measures its progress. Describe in particular how the sustainability of the Center will be measured. Discuss the amount and sources of operating revenue and investment dollars that will be required for continuation of the Center beyond the three-year WCI funding period.

- **Management Plan.** Identify the Center Director (the person responsible for the overall performance of the WCI) and discuss the Director's experience with respect to managing a Center of the nature being proposed. If the Lead Applicant is not able to name the Center Director, identify the characteristics for the position and the process that will be used to recruit the Director.

Biographical sketches for the Center Director/Principal Investigator and other key Center staff (total of not more than 10) must be included as part of Section 5.3.11.

Describe the involvement of industry in developing the vision for the Center and how industry will be involved in its governance and programmatic activities. Indicate the process for attracting and involving industry. Describe the technology transfer operations of the participating organizations, and their role in supporting the Center's relationships with industry. Define any major investments in the technology transfer operations or changes in operating policies and procedures planned for the support of Center activities. With regard to technology commercialization, specifically define any plans to challenge existing institution paradigms or to employ unique or innovative methods to develop the commercial potential of the research programs of the Center.

5.3.7 Commercialization Strategy

The Commercialization Strategy must contain a discussion of the following general topics areas for each technology or area of investigation that is expected to lead to new product opportunities.

- What is the market place need addressed by the technology?
- What alternatives exist to satisfy this need and what alternative approaches are being investigated?
- What is the specific value proposition of the Lead Applicant's proposed approach and what are the differentiating benefits associated with the proposed technology? What evidence supports the contention that the market values these benefits?
- What is the market size and growth?
- What is the general magnitude of the investment that will be needed to bring the product into the market? How long will the commercialization process take?
- What are the additional potential sources of investment capital that can be used for financing the market entry of the product? What evidence exists that the Lead Applicant understands the investment criteria used by these sources?

- What are the roles and responsibilities of the Lead Applicant and partners in the commercialization process?
- What type of business model (new company formation, license to an existing company, etc.) does the Lead Applicant and partners expect to implement? What are the strengths and weaknesses of the current Lead Applicant and partners with respect to implementing this business model?

In preparing this Commercialization Strategy section of the proposal, the Lead Applicant must relate the commercialization strategy to the ODOD Commercialization Framework described in Section 2.2 of this RFP. In addition to the topics listed above, the Lead Applicant should specifically address the following points about each product development opportunity that will be funded by the WCI grant.

- In which phase of the commercialization framework does each technology fall?
- What technical proof is required to convince additional investors to finance the next stage of work?
- How much will it cost to complete the technical proof and will the State's funding be adequate? If not, where will additional investment come from and does the Lead Applicant have a firm commitment of these resources?
- How much will it cost to perform the next phase of the commercialization process and what organizations provide the types of resources the Lead Applicant will need to conduct the next stage of the commercialization process?
- Does the Lead Applicant have any commitments from potential resource providers about their willingness to fund additional commercial phases?

These points will be used to establish the Level A and B metrics for the proposed BRCP project. Success is defined as the Lead Applicant and partners acquiring the resources needed to conduct the next phase of commercialization.

Management of intellectual property is a key success factor for Research and Commercialization projects. The proposal should clearly define how the Lead Applicant intends to manage new intellectual property, describe how they will work with technology transfer offices and partners to establish ownership rights, and how they will work with Ohio-based companies and/or investors to realize positive economic impacts from the business opportunities in Ohio.

5.3.8 Sustainability Plan

Discuss how the Center will grow over the funding period and include extramural funding sources including operating support from the Lead Applicant and collaborators, income from grants, license fees, royalty revenues, fees for services, and equity positions in newly formed companies. The sustainability plan must clearly indicate how the Center will sustain itself and flourish beyond the required three-year funding period. Being able to sustain operations beyond the grant period is a major success factor for the performance of any Grant awarded and the realism of the continuation plan will be considered as an important factor in evaluating proposals.

5.3.9 Projected Economic Impacts

In addition to reporting Level A, B, and C metrics, the Lead Applicant must estimate the employment, personal income, and product revenues from the commercialization success of the technologies. The proposal should contain a realistic forecast of the direct employment, personal income, and product revenue for two time points—the first being at the completion of the active work on the grant and the second being five years thereafter. The Lead Applicant should document how the projections were developed and key assumptions used in the analysis. For example, if the projections are based on capturing a particular share of the market, the proposal should indicate the magnitude of the market and the basis for the estimated market share. The Lead Applicant should identify the impacts for each distinct product or product platform that will come from the State investment. The Lead Applicant should report only direct impacts—not secondary or tertiary impacts derived from economic models.

The Lead Applicant may describe a longer term forecast, in addition to the two points required, if the Lead Applicant believes there will be substantial differences in the employment, income, and revenue levels at later periods of time. Again, all methods and assumptions should be disclosed.

5.3.10 Budget

Use the forms provided in Appendix A.

The capital funds portion of the budget must be used solely to acquire, renovate, or construct facilities and purchase equipment that is part of property or facilities owned by an Ohio state-supported or state-assisted institution of higher education, or by a nonprofit corporation that provides access and use of the facilities or equipment to a collaborating Ohio state-supported or state-assisted institution of higher education. If the facilities or equipment will be owned, or will be part of facilities owned, by a nonprofit corporation, the corporation must enter into a Joint Use Agreement with a collaborating Ohio state-supported or state-assisted institution of higher education that will contain the elements set forth in O.A.C. section 3333-1-03. Facilities and Administrative (F&A) costs, indirect costs or overhead of any kind is not an allowable expense against capital funds.

In the operation funds portion of the budget, funds may not be used for equipment, renovation, construction, or property acquisition costs.

A rate of 10% of total direct costs may be used for facilities and administrative (F&A) indirect costs, but only on the operational portion of the budget. The difference between 10% and the Lead Applicant's federally approved facilities and administrative costs rate agreement (or published indirect rate if no federally approved rate exists), and therefore the unrecovered indirect costs costs from the operating request, may be used as cost shared indirect costs (note: Lead Applicant will need to insert the percent differences into the formula on the budget form). However, the Lead Applicant's indirect cost rate may not also then be applied to cost shared direct costs and used as cost shared indirect costs. In those cases where the Lead Applicant does not have a federally negotiated and approved F&A rate agreement, the Lead Applicant is limited to using 10% of their cost shared direct costs as cost shared indirect costs and no other unrecovered indirect costs from the operating budget may be claimed.

In accordance with Ohio Revised Code Chapter 4115, projects involving state funds may require the recipient to pay prevailing wage rates for workers involved in any construction

activity. It shall be the responsibility of the recipient of the funds to comply with all prevailing wage requirements. The Ohio Department of Commerce, Division of Labor & Worker Safety, Wage & Hour Bureau will make all determinations on the requirements of paying prevailing wages. If it is determined that prevailing wage rates are to be paid, then pursuant to O.R.C. Section 4115.032, ODOD shall designate a Prevailing Wage Coordinator who shall be vested with all the powers, duties, and responsibilities required by law of Wage Coordinators.

Budget Form 1 must present the total three-year budget plan for the funds requested and all committed and expected cost share by the specific use categories listed on the form. The respective cost share presented on this form must equate to at least twice the amount of the capital funds requested and a one to one match for the operational funds requested.

Budget Form 2 must be filled out for the Lead Applicant. The total funds requested in the proposal must be represented on this form for respective capital and operating costs encompassing the lead organization and sub-awards. Sub-awards on Form 2 specifically and only refer to WCI funds provided to collaboration organizations by the Lead Applicant. The cost share included in Budget Form 2 must represent the total amount of cost share.

Budget Form 3 must be filled out for each Collaborator Organization depending on whether capital and/or operating funds are requested. A Collaborator Organization is any entity that is receiving a sub-award from the Lead Organization and is committing cost share to the Center. The total of the request capital funds and operating funds in the Collaborator Organization budget forms must be equal to the total amounts of the sub-awards reported in Budget Form 2.

All commitments of cost share identified by the Lead and Collaborator organizations, as well as projected sources of cost share listed by general category (e.g. private, higher education institution) must be listed in **Budget Form 4**. Corresponding letters of commitment must be included in the proposal as described in Section 5.3.13 of this RFP.

In addition to completing the budget forms, a separate budget narrative must be included.. The budget narrative must include full details and justifications of the line items provided in the Budget Forms. Refer to the Budget Definitions included in Appendix B to the RFP to determine what is included in each expense category.

Please note that Lead Applicants for TFP funding must identify their requirements for high performance computing facilities and services, including hardware, software, and infrastructure in their proposals. If a Lead Applicant's requirements exceed approximately \$100,000 for a proposed project, the Ohio Supercomputer Center shall convene a panel of experts. The panel shall review the proposal to determine whether the proposal's requirements can be met through Ohio Supercomputer Center facilities or through other means and report such information to the Third Frontier Commission. Lead Applicants are encouraged to consult with the Ohio Supercomputer Center in advance of submitting a proposal with \$100,000 or more in high performance computing facilities, equipment, infrastructure or services.

5.3.11 Experience and Qualifications

The proposal must contain a description of relevant organizational experience, capabilities, facilities and equipment, and financial conditions of the Lead Applicant and key collaborators. Provide detail sufficient to evaluate whether the Lead Applicant and

collaborators have the direct experience needed to perform both the technical and commercial work being proposed. The Lead Applicant should limit past project experience to activities that have occurred within the past 5 years.

Biographic information must be provided for each person listed as key personnel. A maximum of 10 individual Biographical Sketches may be submitted. The biographical information should present the relevant work history, technical experience, commercialization experience, project management experience, educational attainment, honors and recognitions, and selected recent publications that relate directly to the subject matter of the proposed project. If a key position is to be filled upon grant award, please provide either a job description for that position or a description of a candidate to whom the Lead Applicant has made a contingent offer.

5.3.12 Past Performance on Previous Third Frontier Awards

If the Lead Applicant is submitting a proposal that is an extension or related to the subject matter of a previous Third Frontier award to the Lead Applicant, this section of the proposal must contain a review of the performance of that grant(s). The Lead Applicant should discuss the objectives, accomplishments, and impacts from the previous award(s). The discussion should be in sufficient detail that an external reviewer will be able to assess whether the performance on that grant has been satisfactory.

5.3.13 Collaborator Information/Letters of Commitment

A Commitment Letter must be provided for each cost sharing and collaborating organization identified in Budget Form 4. No other support letters may be submitted. The letters must:

- Be submitted on the letterhead of the Collaborator Organization
- Include the name of the Lead Organization, the name of the proposed Center, and the LOI number assigned by ODOD
- Briefly state the nature of the collaboration
- State the duration of the collaboration
- State the resources, other than cost share, the Collaborator is committing to the proposed Center
- State how the Center will contribute to the strategy of the Collaborator
- Be dated and signed by an official with the authority to commit the Collaborator.
- State the amount of the cost share commitment that must match the amount on the corresponding Budget Form 3
- State the source of the commitment
- State when the committed resources will be available to the Lead Applicant
- Be dated and signed by an official with the authority to make the cost share commitment.

5.4 Page Limitations

Any pages beyond the page limits listed below will be eliminated from the proposal before it is sent for technical review and evaluation. Except as otherwise noted, appendices or other methods to augment the information presented in the Narrative will count toward the total page limit. Referral to web-based information to augment the Narrative is not permitted and such references will not be used in the evaluation.

- Abstract – 1 page (500 words)
- Proposal Narrative – 35 pages (excluding “References”)
- Commercial Strategy – 15 pages
- Continuation Plan – 5 pages
- Projected Economic Impact – 5 pages
- Budget – use specified forms
- Budget Narrative – 5 pages total
- Past Performance on Previous Third Frontier Awards – 5 pages
- Experience and Qualifications
 - Organizational Qualifications – 5 pages total including the lead and all collaborators
 - Biographical Sketches – 20 pages (A maximum of 10 biographical sketches of key personnel and each bio is limited to 2 pages)

APPENDICES

A. Forms

B. Definitions

C. Cost Share Guidelines