



Ohio

Third Frontier
Innovation Creating Opportunity

Commission Meeting

February 12, 2014

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Agenda

10:00	Call to Order Approve 12/11/2013 Meeting Minutes	David Goodman (Chair)
10:05	Technology Validation & Start-up Fund Awards (Vote)	Anthony Howard/ YourEncore
10:35	Commercial Acceleration Loan Fund (Vote)	Diane Chime
11:05	Technology Asset Grant Program (Vote) <ul style="list-style-type: none">• Columbus Collaboratory	Anthony Howard/ Taratec
11:30	Technology Commercialization Center <ul style="list-style-type: none">• Harrington Discovery Institute	Anthony Howard/ YourEncore
12:15	Entrepreneurial Services: <ul style="list-style-type: none">• Planning for 2015-16	Mihaela Jekic
12:35	Metrics System - Update	Keith Jenkins
12:50	Other Business	All
1:00	Adjourn	

Technology Validation & Start-up Fund Program

Technology Validation & Start-up Fund Program

Purpose

- Support Ohio institutions of higher education and other Ohio not-for-profit research institutions in doing a better job at licensing and monetizing their technological discoveries.
- Create economic growth in Ohio based on start-up companies that license and commercialize technologies developed by Ohio institutions of higher education and other Ohio not-for-profit research institutions.

Technology Validation & Start-up Fund Program

- **Lead Applicants/Phases:**

Phase 1 – Technologies developed at Ohio research institutions needing additional validation/proof before an Ohio start-up company will license. Up to \$50,000 w/ 1:1 cash cost share.

Phase 2 – Ohio start-ups and young companies that are a prospective licensee of a technology from an Ohio institution. Up to \$100,000 as initial capitalization w/ no cost share.

- **External Evaluator:** YourEncore

Technology Validation & Start-up Fund Program

- 5th Cycle of the TVSF program. To date, including this cycle:
 - Phase 1 proposals - 106 Phase 1 awards - 42
 - Phase 2 proposals - 67 Phase 2 awards - 28
- Commission directed mandatory TVSF debriefs after Cycle 4 awards of June 2013
 - 40 proposals w/ 12 awarded
 - Of the remaining 28 proposals - 24 debriefed
- Current cycle
 - 46 applications w/ 21 recommended for award



Innovative Results through Proven Expertise

Technology Validation and Start Up Fund- Round 5

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Overview

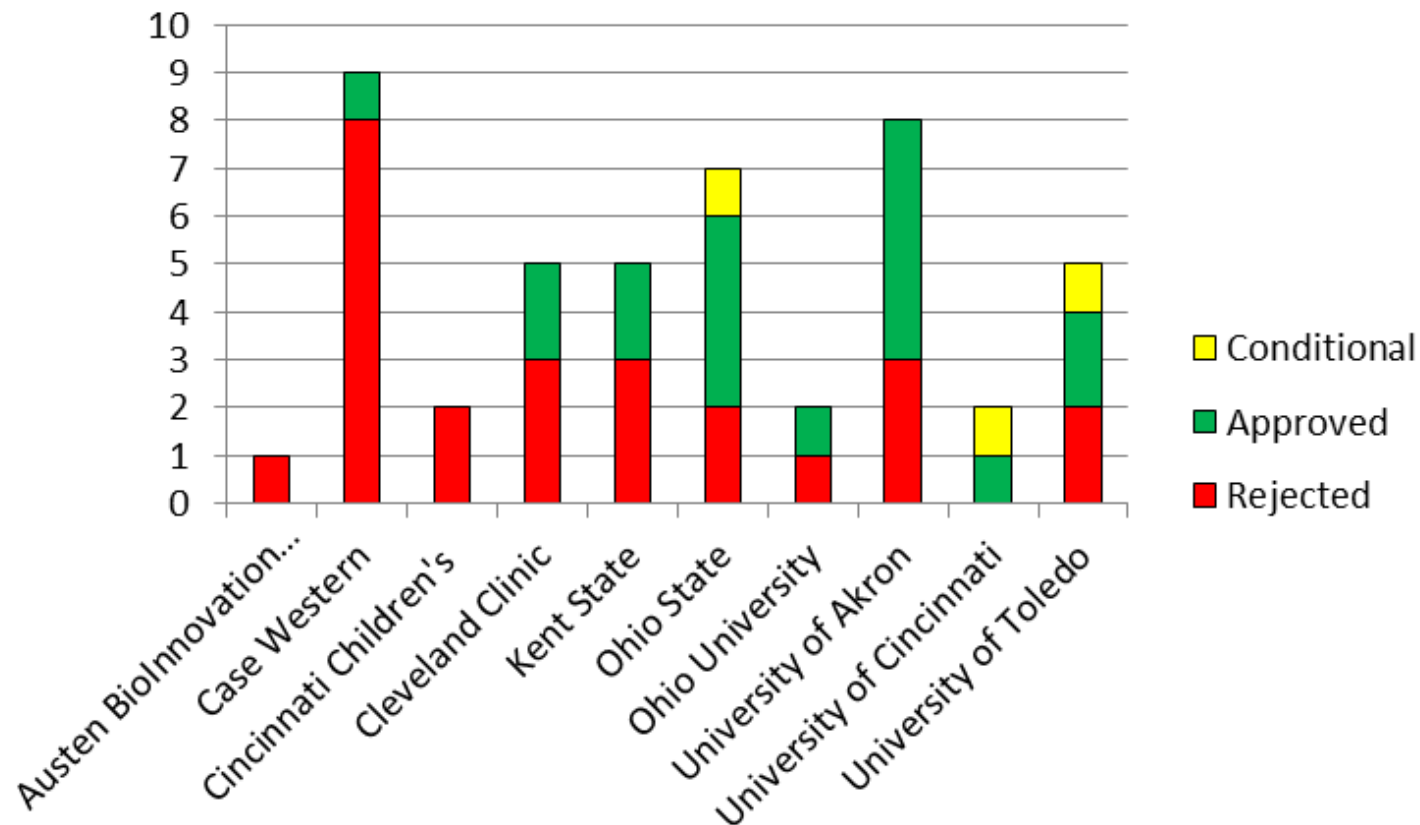
- 46% of grants submitted this round recommended for approval (21 of 46). This includes 3 conditional recommendations. Total grant dollars recommended increased to \$1,462,000

Approval Rate	Round	Rec Fund
35%	1	\$950,000
52%	2	\$900,000
44%	3	\$610,000
30%	4	\$864,000
46%	5	\$1,462,000

- Proposal quality varied broadly.
 - *In general, phase 2 applications were stronger than phase 1s.*
- Continue to encourage potential resubmissions to take advantage of the opportunity to debrief.
 - *It was evident that many benefited from the discussion.*
 - *Resubmission success rate was 64% including one conditional.*

Overview

Round 5 Results: Applications by Institution



Trends

■ Phase 1

- *Strong with Plan Timeline and Ohio start up potential*
- *Primary opportunity for improvement is in Proof Generation*
 - Lack of measureable proof end point
 - Plan deliverable was not proof of commercialization potential.

■ Phase 2

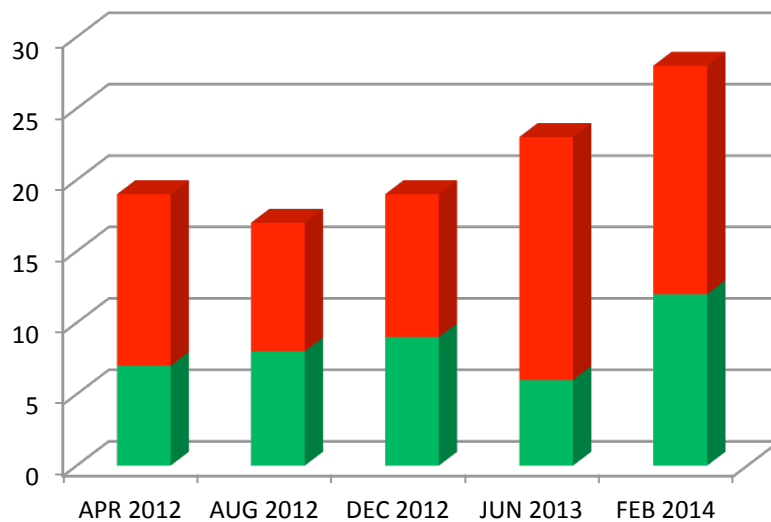
- *Strong with plan timeline, company backing, IP, budget, Ohio start up and licensing of technology.*
- *Primary opportunities for improvement congregate around business rationale.*
 - Business Cases are in need of guidance and review prior to submission
 - Lacking clear understanding of potential market dynamics and size
 - Team lacking professional business knowledge members

Trends

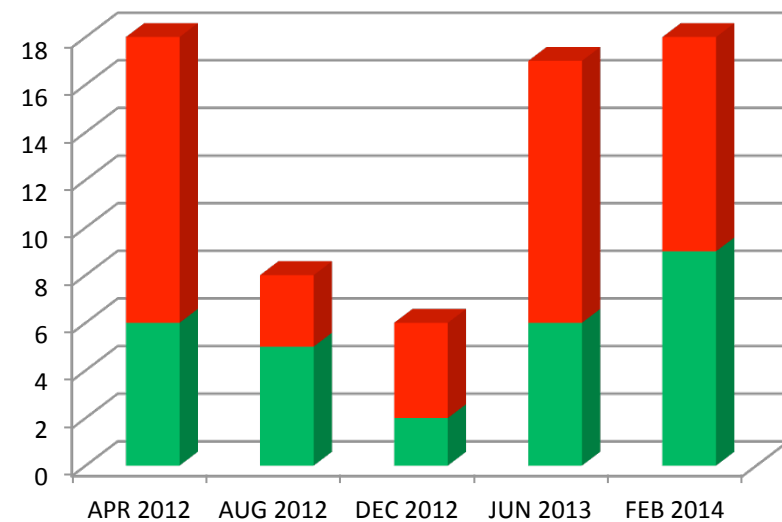
Comparative Results (all rounds to date)

Rounds 1-5 Results

Phase 1 Applications



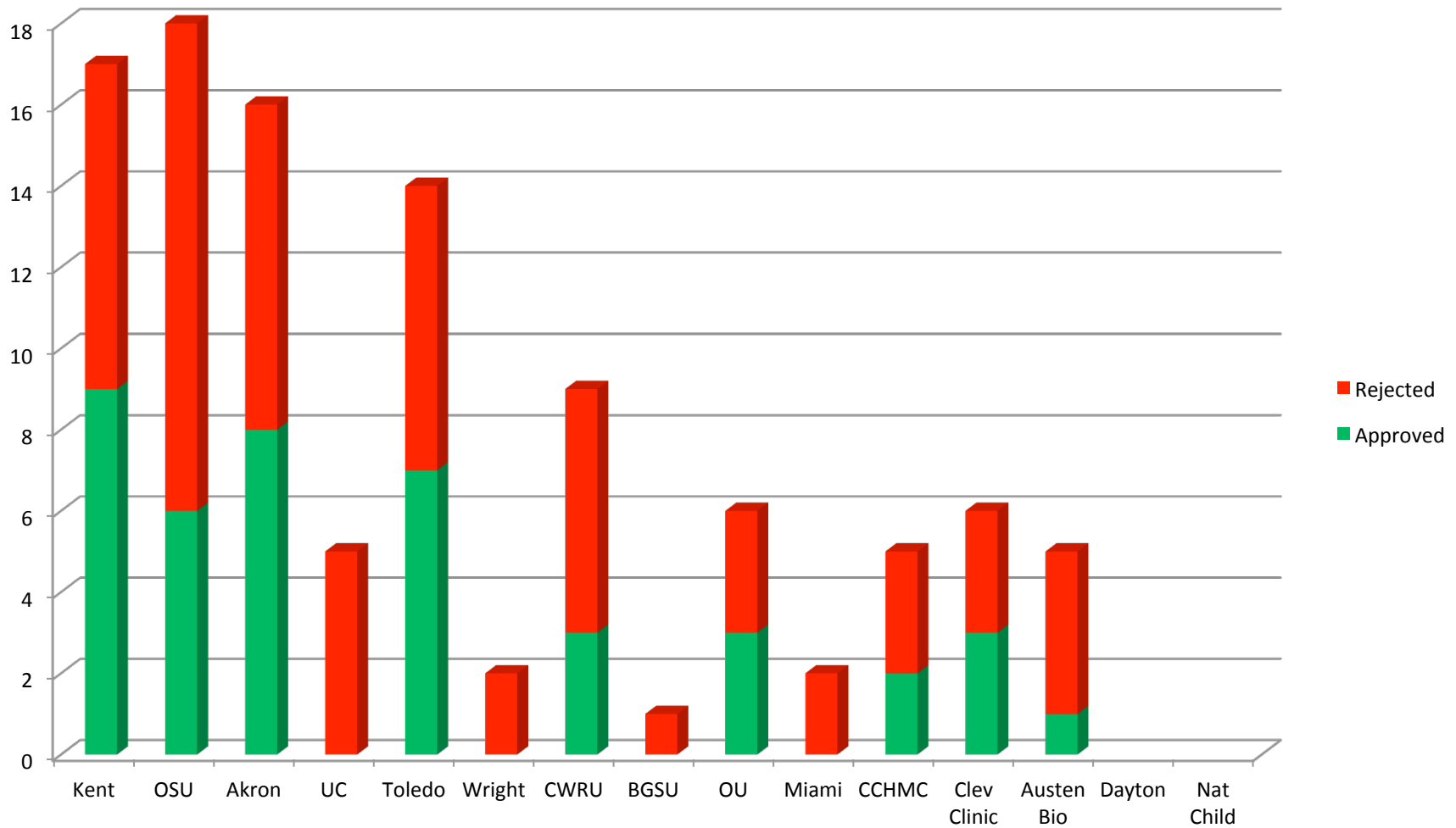
Phase 2 Applications



Trends

Cumulative Results – Phase 1 (all rounds to date)

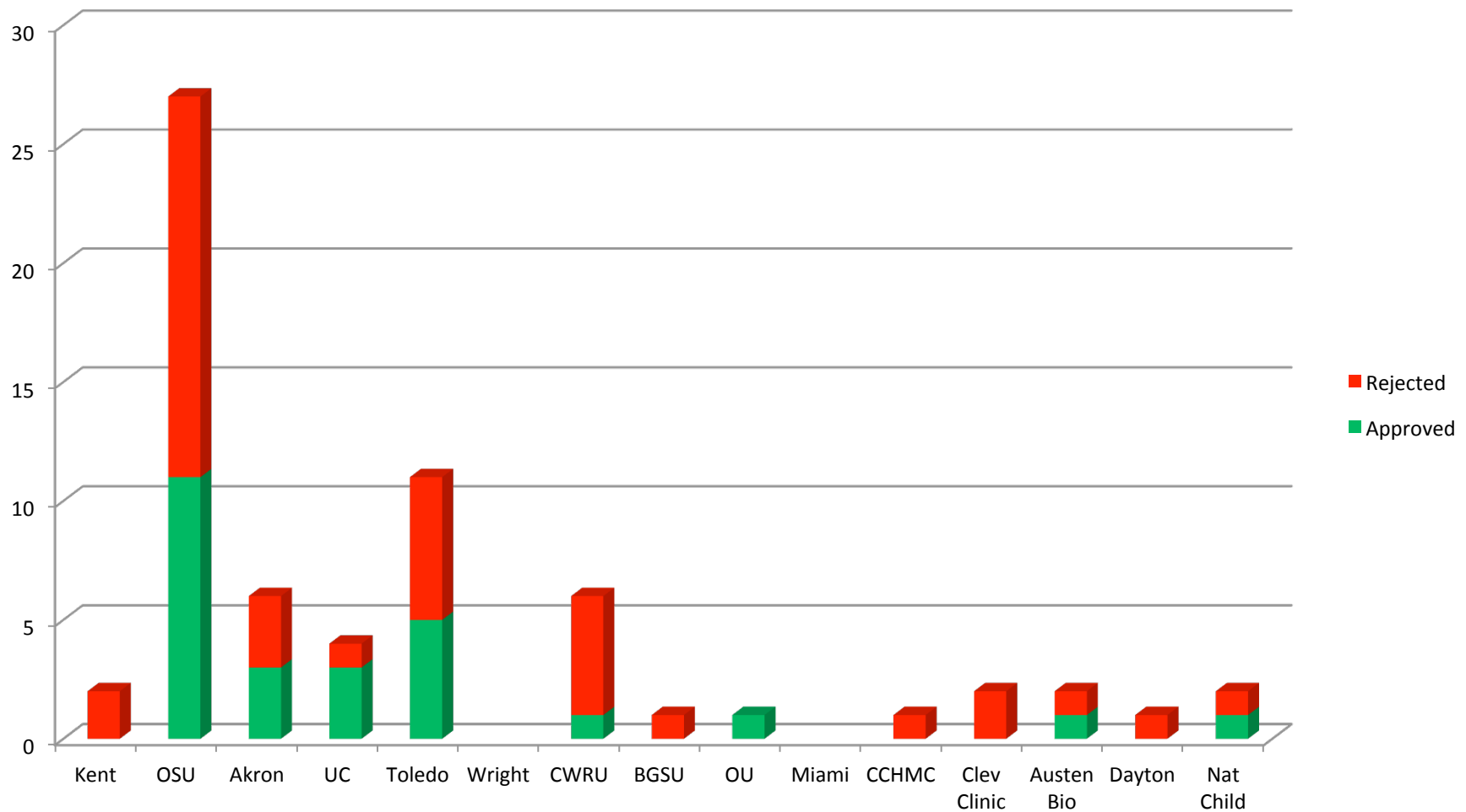
Phase 1 Approved/Rejected by Institution



Trends

Cumulative Results – Phase 2 (all rounds to date)

Phase 2 Approved/Rejected by Institution



Phase I

Summary of Recommendations

			Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8
PROPOSAL #	Licensing Institution	PROJECT TITLE	Generation of Proof to be Licensed	Project Plan / Team (1 Year)	Independent 3rd Party Review	Reasonable Path to Mkt	IP Protection	Start-up in Ohio	Market Opportunity / Size	Budget Narrative / Use of Funds
13-501	Cleveland Clinic	Reinforced Extracellular Matrix Device for Ventral Hernia Repair								
13-504	Ohio University	A Matlab Toolkit for 3D Visualization of Real and Synthetic Flight Data								
13-506	University of Akron	OXAID: Oxygenated Hydrogel Wound Dressings								
13-507	University of Akron	Mechanoluminescence (ML) Sensors								
13-509	University of Akron	Smart Phone Based Universal Water Quality Sensor								
13-512	Ohio State	Single-Chain Antibodies for Immunohistochemistry Cancer Diagnosis								

Phase I

Summary of Recommendations

PROPOSAL #	Licensing Institution	PROJECT TITLE		Generation of Proof to be Licensed	Project Plan / Team (1 Year)	Independent 3rd Party Review	Reasonable Path to Mkt	IP Protection	Start-up in Ohio	Market Opportunity / Size	Budget Narrative / Use of Funds
13-515	Kent State	End-Effector and Robot Workcell for Automated Assembly of Fuel Cell Stacks Using Robotic Technology									
13-516	Cleveland Clinic	Endovascular IOPS: Validation of Dual-Modality Registration Markers									
13-523	University of Toledo	Ankle Foot Orthosis Using Shape Memory Alloys for Addressing Drop Foot									
13-525	University of Akron	Aqueous Biphasic Tumor Spheroids for Drug Discovery									
13-526	Case Western	Software for Quantification and Visualization of Intravascular Optical Coherence Tomography									
13-528	Kent State	Smart Energy-Saving Liquid Crystal Window									

Phase I

Summary of Recommendations

PROPOSAL #	Licensing Institution	PROJECT TITLE	Generation of Proof to be Licensed	Project Plan / Team (1 Year)	Independent 3rd Party Review	Reasonable Path to Mkt	IP Protection	Start-up in Ohio	Market Opportunity / Size	Budget Narrative / Use of Funds
13-502	Cincinnati Children's	Antibody for Prevention of Catheter Line Infection and Biofilm Growth								
13-503	Ohio University	Development of a New Versatile LC/MS Interface via Non-Destructive Mass Spectrometric Sensing								
13-505	Austen BioInnovation Institute in Akron	Digital Dx								
13-508	Case Western	Replacing Endoscopic Imaging With Non-Invasive Office Based Screening Test for Barrett's Esophagus								
13-510	University of Akron	Osteoporosis Home Screening Kit								
13-511	University of Akron	Additively Manufactured Prosthetic Socket Cooling System								
13-513	Ohio State	FleetCalc								
13-514	Case Western	Stonelyzer for Instant Identification of Kidney Stones at the Point of Care								



Phase I

Summary of Recommendations

PROPOSAL #	Licensing Institution	PROJECT TITLE	Generation of Proof to be Licensed	Project Plan / Team (1 Year)	Independent 3rd Party Review	Reasonable Path to Mkt	IP Protection	Start-up in Ohio	Market Opportunity / Size	Budget Narrative / Use of Funds
13-517	Cleveland Clinic	Coronary Chronic Total Occlusion Guidewire Family to Treat Coronary Artery Disease								
13-518	Cleveland Clinic	Multidisciplinary Patient Management Conferences								
13-519	Case Western	Software Suite for Diagnostic Imaging of the Retina by Two-Photon Florescence Microscopy								
13-520	Case Western	Development of Novel Tools for Health IT - COBALT								
13-521	Case Western	Trial Prospector: Clinical Trials Matching Application for Oncology								
13-522	Kent State	Novel Non-Photobleaching Fluorescent Magnetic Nanoparticles (FL-MNPs) as Advanced Bioimaging Agents								
13-524	University of Toledo	Development of an Electromagnetic Antifouling Composite Coating								
13-527	Kent State	A Platform Technology Based on Biocompatible Liquid Crystal Elastomers								



Phase 1 Proposals Recommended for Funding

- 13-501: Cleveland Clinic, Reinforced Extracellular Matrix Device for Ventral Hernia Repair, \$50,000
- 13-504: Ohio University, A Matlab Toolkit for 3D Visualization of Real and Synthetic Flight Data, \$50,000
- 13-506: University of Akron, OXAID: Oxygenated Hydrogel Wound Dressings, \$50,000
- 13-507: University of Akron, Mechanoluminescence (ML) Sensors, \$50,000
- 13-509: University of Akron, Smart Phone Based Universal Water Quality Sensor, \$50,000
- 13-512: The Ohio State University, Single-Chain Antibodies for Immunohistochemistry Cancer Diagnosis, \$50,000
- 13-515: Kent State University, End-Effector and Robot Workcell for Automated Assembly of Fuel Cell Stacks Using Robotic Technology, \$26,616

Phase 1 Proposals Recommended for Funding (cont.)

- 13-516: Cleveland Clinic, Endovascular IOPS: Validation of Dual-Modality Registration Markers, \$50,000
- 13-523: University of Toledo, Ankle Foot Orthosis Using Shape Memory Alloys for Addressing Drop Foot, \$50,000
- 13-525: University of Akron, Aqueous Biphasic Tumor Spheroids for Drug Discovery, \$50,000
- 13-526: Case Western Reserve University, Software for Quantification and Visualization of Intravascular Optical Coherence Tomography, \$50,000
- 13-528: Kent State University, Smart Energy-Saving Liquid Crystal Window, \$35,004

Phase II

Summary of Recommendations

PROPOSAL #	Licensing Institution	Lead Applicant	PROJECT TITLE	Proof	Project Plan (one year)	Likelihood of Additional Funds at project end	Team	Business Model	Company Backing	IP Protection	Opportunity / Mkt. Size	Budget / Use of Funds	Start-up in Ohio	License with Ohio Institution
13-532	Ohio State	SimpleFill, Inc	SimpleFill - High Pressure Natural Gas Compression											
13-535	University of Cincinnati	MicrobeCapture, LLC	Novel Rapid Diagnostic Assay for Influenza											
13-537	University of Toledo	IRISense, LLC	IRISense, LLC											
13-542	University of Akron	Akron Surface Technologies	Surface Treatment Platforms											
13-546	Ohio State	3Bar Biologics, Inc	Commercializing Biological Inoculants to Increase Yield in Production Agriculture											
15-538	Ohio State	ProteoSense, LLC	Commercialization of ImmunoFET Sensors for Food Safety Pathogen Detection											
13-534	University of Cincinnati	Eccrine Systems, LLC	Wearable Blue Tooth Sweat Sensor Prototype											
13-541	Ohio State	QuTel, Inc	Quantum Tunneling Electronics for Ultra-Low Power Electronics											
13-545	University of Toledo	Spinal Balance, Inc	Facet Screw System											

Phase II

Summary of Recommendations

PROPOSAL #	Licensing Institution	Lead Applicant	PROJECT TITLE		Proof	Project Plan (one year)	Likelihood of Additional Funds at project end	Team	Business Model	Company Backing	IP Protection	Opportunity / Mkt. Size	Budget / Use of Funds	Start-up in Ohio	License with Ohio Institution
13-529	Ohio State	AwareAbility, LLC	AwareAbility Ultra Low Power Sensors and Software Application												
13-530	Cleveland Clinic	Ion-Vac, Inc	Wound Healing System												
13-531	CCHMC	Sepsis Newco, LLC	Commercial Translation of Biomarker-Based Algorithm for Severe Sepsis and Septic Shock												
13-533	Kent State	iRxReminder, LLC	iLidRx: Interoperating Medication Container for mHealth Management of Chronic Illnesses												
13-536	University of Akron	Telkesis, Inc	Minimal Shock Set Screws (MS3) for Spinal Surgeries												
13-539	Case Western	Mach Medical Innovation, Inc	A Cost Effective, Smart Endotracheal Tube that Improves Intubations												
13-540	Case Western	BEAR Software	A Wireless Intra-Oral Palatometer												
13-543	Case Western	ProImage Diagnostics, LLC	PTPmu Molecular Imaging Probes Identify Cancer Cells During Surgical Resection of Tumors												
13-544	University of Toledo	OsteoNovus, Inc	Improving Bone Graft Technology												

Phase 2 Recommendations for Funding

- 13-532: SimpleFill, Inc., High Pressure Natural Gas Compression, \$100,000
- 13-535: MicrobeCapture, LLC, Novel Rapid Diagnostic Assay for Influenza, \$100,000
- 13-537: IRISense, LLC, \$100,000
- 13-538: ProteoSense, LLC, Commercialization of ImmunoFET Sensors for Food Safety Pathogen Detection, \$100,000
- 13-542: Akron Surface Technologies Inc., Surface Treatment Platforms, \$100,000
- 13-546: 3Bar Biologics, Inc., Commercializing Biological Inoculants to Increase Yield in Production Agriculture, \$100,000

Phase 2 Conditional Recommendations for Funding

- 13-534: Eccrine Systems, LLC, Wearable Blue Tooth Sweat Sensor Prototype, \$100,000
 - *Condition: Re-submission and Approval of Formalized Business Plan*
- 13-541: QuTel, Inc., Quantum Tunneling Electronics for Ultra-Low Power Electronics, \$100,000
 - *Condition: Funding Commitments for Manufacture of Memory Array Prototype*
- 13-545: Spinal Balance, Inc., Facet Screw System, \$100,000
 - *Condition: Affirmative Completion of Strength Study*



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Technology Validation & Start-up Fund Program

- Staff recommended and the Commission concurred at the April 25, 2012 Third Frontier Commission meeting that TVSF program eligibility for both Phase 1 and Phase 2 be expanded to other Ohio non-profit research institutions, specifically research hospitals.
- Staff additionally recommends further expansion to include federal labs in Ohio.
 - Ohio start-ups may seek TVSF Phase 2 funding for support of a technology the start-up may yet license from one of the following federal labs in Ohio and assuming the technology was developed at the Ohio lab:
 - NASA Glenn Research Center
 - Air Force Research Laboratory
 - US EPA, Cincinnati

Commercial Acceleration Loan Fund

Early Stage Loans – Pipeline Review

Ohio Third Frontier - Commercial Acceleration Loan Fund Small Business Credit Initiative - Targeted Investment Program

Total Inquiries Since CALF Announcement (May 2013)	117
Early Stage Loan Funds Requested	\$158 MM
Company Presentations	53
Third-Party Evaluations	37
New Loan Inquiries Since 12/11 Meeting	32
90% Since 1/6/2014	
Average New Requests Per Week	5
Average Loan Request Size	\$1.4 MM

Early Stage Loans – Pipeline Review

Ohio Third Frontier - Commercial Acceleration Loan Fund

Summary of CALF Funding

\$40 MM CALF Funds Allocation (2013 and 2014)

CALF Funds (First Allocation 2013)	\$20 MM
4 CALF Loans Approved (December 2013)	\$6.4 MM
7 CALF Loans Proposed (February 2014)	\$9.3 MM
Remaining Balance (2012 Allocated Funds):	\$4.3 MM
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CALF Funds (Second TFC Allocation) 2014	\$20 MM
9 Companies in Evaluation (Estimated Funds if Approved)	\$15.5 MM
Estimated Availability Remaining (2013/2014 Allocated Funds)	\$8.8 MM

Early Stage Loans – Pipeline Review

State Small Business Credit Initiative - Targeted Investment Program

Targeted Investment Loan Program

(FY 2014 Allocation)

2014 Availability	\$12 MM
Closing	\$1 MM
3 February Approvals (Estimated)	\$3.8 MM
7 March Approvals (Estimated)	\$8.2 MM
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Estimated Availability (Oversubscribed)	\$0 MM

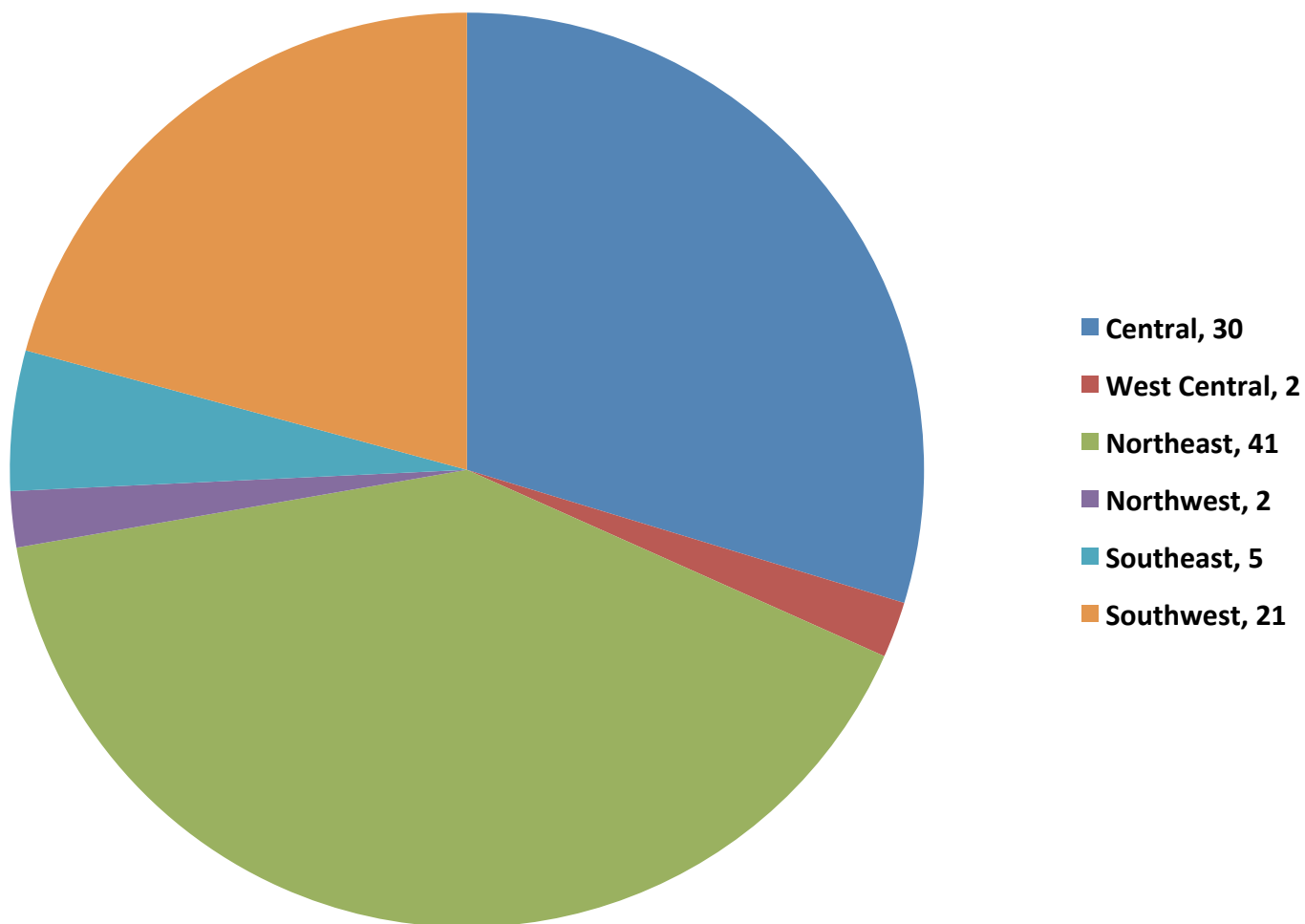
Early Stage Loans – Pipeline Review

Previous OTF Assistance

Total Inquiries	117
Previous Assistance	66 (56%)
- PreSeed Assistance	20
- ESP Assistance	36
- OTF Direct Assistance	10

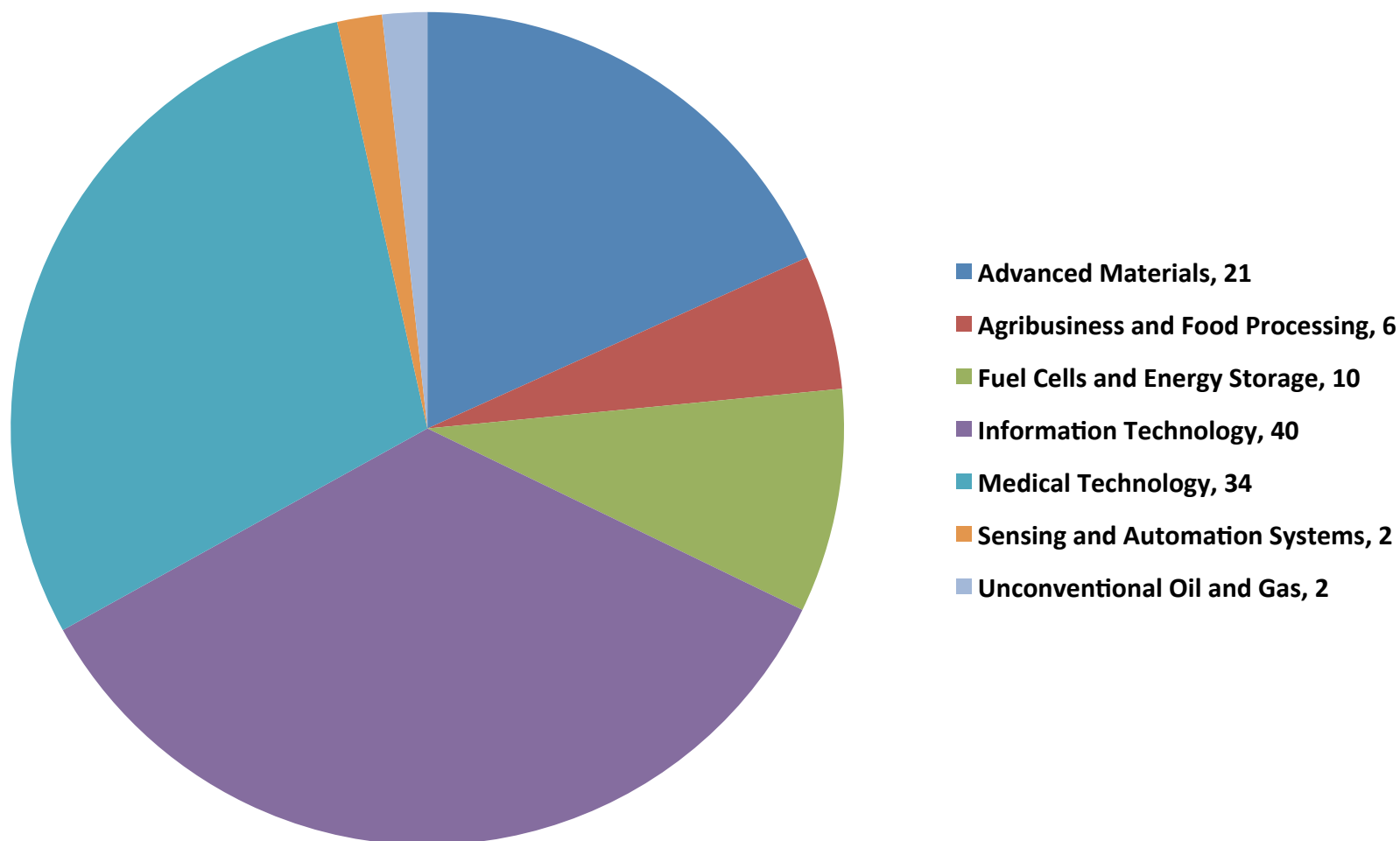
Early Stage Loans – Pipeline Review

Activity by Region



Early Stage Loans – Pipeline Review

Activity by Industry



Early Stage Loans – Pipeline Review

Revenue Stage

- 55% - PreRevenue
- 43% - Revenue Generating, Negative Cash Flow
- 2% - Revenue Generating, Positive Cash Flow

Repayment Options

Ohio Third Frontier - Commercial Acceleration Loan Fund

Program Guidelines:

**“The loan will include a royalty on sales, ranging from
4 to 7 percent based on the industry sector”**

Payment Structuring Examples:

- Graduated
- Percentage of EBITDA
- Percentage of Positive Income
- Royalty on Sales
- Scheduled Payments

February 12, 2014 – CALF Proposed Loans

Ohio Third Frontier - Commercial Acceleration Loan Fund

Company Name	County	Industry	Project Amount	Loan Award	CALF Funding Percentage
MesoCoat, Inc.	Cuyahoga	Advanced Materials	\$3,000,000	\$1,500,000	50%
LineStream Technologies, Inc.	Cuyahoga	Information Technology	\$2,600,000	\$1,300,000	50%
Checkpoint Surgical, LLC	Cuyahoga	Medical Technology	\$2,121,780	\$1,591,335	75%
SPR Therapeutics, LLC	Cuyahoga	Medical Technology	\$2,735,000	\$1,367,500	50%
Vadxx Energy, LLC	Summit	Unconventional Oil	\$3,200,000	\$1,600,000	50%
NanoDetection Technology, Inc.	Warren	Medical Technology	\$2,500,000	\$1,000,000	40%
Zuga Medical, Inc.	Cuyahoga	Medical Technology	\$1,350,000	\$1,000,000	74%
				\$9,358,835	

February 12, 2014 – CALF Proposed Loans

Innovation Ohio Loan Participants

Considerations

- Stage of Company Development at Receipt of Innovation Ohio Loan
- Strength of Product in Comparison to Other Available Opportunities
- Ability to Raise Equity and Continuous Investor Support
- Current Status of Loan

Company Name	Market	Technology/Product	Intellectual Property	Legal	Business Model	Financial Review	Management Team		Evaluator(s) Recommendation	
MesoCoat	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	
LineStream	Taratec	Taratec	Taratec	Taratec	DEA	DEA	Taratec	DEA	DEA	Taratec
Checkpoint	SBCi	SBCi	SBCi	SBCi	DEA	DEA	SBCi	DEA	SBCi	DEA
SPR	SBCi	SBCi	SBCi	SBCi	DEA	DEA	SBCi	DEA	SBCi	DEA

SBCi Ltd. (SBCi), Susan Stanton

Diperna Economic Development Advisors (DEA), Michael Diperna

Taratec Corporation (Taratec), Chuck Meadows

February 12, 2014 – CALF Proposed Loans

Innovation Ohio Loan Participants

Company Name	Market	Technology/Product	Intellectual Property	Legal	Business Model	Financial Review	Management Team		Evaluator(s) Recommendation
Vadxx Energy	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec
NanoDetection Technology	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec
Zuga Medical	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec	Taratec

SBCi Ltd. (SBCi), Susan Stanton

Diperna Economic Development Advisors (DEA), Michael Diperna

Taratec Corporation (Taratec), Chuck Meadows

April 9, 2014 – Next Meeting

CALF Portfolio Review and Projections

Technology Asset Grant Program

Technology Asset Grant Program

What is a Technology Asset?

- Highly specialized and unique technical equipment/facility that:
 - 2 or more established Ohio for-profit companies or a federal procurement agency in Ohio will use, and
 - is critical to development of near-term new tech-based product/s.

Grant funding/cost share

- Minimum total project is \$4M over 3 years w/up to 25% of a project's total cash costs from TAG, not to exceed \$5M.
- Minimum of 50% of a project's total cash costs must come from Ohio companies.
- Construction, fabrication, acquisition, operation of highly specialized/unique technical equipment/facilities.

Technology Asset Grant Program

What kind of activities will the Ohio companies be engaged in?

- Have an industry scale impact (not company or project specific).
- Represent a technology-based competitive advantage for Ohio companies.
- Directly lead to production/manufacturing in Ohio of new tech-based products or services.
- Directly lead to new, for-profit jobs in Ohio as a result of the production/manufacturing activity.
- Produce a specified return on investment in 3 to 5 years.

Technology Asset Grant Program

- ***Columbus Collaboratory, LLC***
 - Advanced analytics and cybersecurity center
- An initiative of Nationwide Insurance, American Electric Power, Huntington Bancshares, Cardinal Health, L Brands Inc., OhioHealth and Battelle
- Total project cash costs - \$25 million over 3 years
 - The 7 corporate partners will contribute \$1 million cash per year for a minimum of 4 years (\$28 million)
 - TAG program request is \$5 million over a grant period of the first 3 years w/ corporate contribution burn rate of \$20 million over those same 3 years (\$25 million)

Columbus Collaboratory, LLC

- 8,000 – 9,000 square foot facility. Two locations in Columbus identified.
- Board of directors composed of one representative from each of the 7 equity partners (CTO or CIO).
- Full-time dedicated staff of 15 - CEO (interim CEO Bradley Ashbrook), management, software engineers and technicians.
- First 3 years cash costs

Corporate cash cost share:

• Personnel	\$8.875M
• Purchased services	\$5.575M
• Operating costs	\$3.500M
• Supplies	\$0.150M
• Overhead	\$0.825M
• Renovations	\$0.200M
• Hardware/software	\$0.875M

TAG Funds:

\$0
\$0
\$0
\$0
\$0
\$1.200M
\$3.800M

Columbus Collaboratory, LLC

- Collaboratory will pursue applications/solutions common to all 7 partners as well as unique subscription services
- IP Ownership w/Collaboratory – IP management through both joint and exclusive licenses across the 7 partners
- Examples of possible projects
 - Call center voice to text analytics
 - Predictive analytics
 - Threat intelligence, attack testing, incident support
 - Talent attraction/development
- Future means of support
 - Primarily through continued use by the original 7 partners
 - Fee for service to additional customers
 - Licensing IP to companies in industries/markets not in competition with the core 7 partners

Columbus Collaboratory, LLC

Collaboratory Recommendation

- \$5 Million in TAG funding
- \$20 Million in corporate cash cost share
- 100 new jobs (15/85)

Technology Commercialization Center Program

Technology Commercialization Center Program

What is a Technology Commercialization Center?

- Very large, highly specialized and technologically focused center.
- Nationally recognized.
- Very deep pipeline of opportunity.
- Center is concentrated at a single lead institution.
- Led by a board and staff with tech-industry expertise and investment capital experience.

Technology Commercialization Center Program

What will be done with grant funding/type of activities?

- State funds matched w/ \$2 cash for every \$1 of grant funding, ½ of the match must come from private industry and for-profit investment sources.
- Acceleration of technology to commercialization in Ohio.
- Capitalization of multiple Ohio start-up companies.

TCC Program activity to date

- In receipt of two proposals
 - University Hospitals-HDI
 - OSU Neurotechnology Innovations Translator
- Two other letters of intent
 - Cleveland Clinic Orthopedics Center
 - University of Akron Polymers Center



Innovative Results through Proven Expertise

Technology Commercialization Center Program

Proposal:

Harrington Discovery Institute
 University Hospitals Case Medical Center

4350 Glendale-Milford Rd., Suite 110
Cincinnati, OH 45242
www.yourencore.com

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F: 513.794.9781

Agenda and Process Update

Technology Commercialization Center Program (TCCP)

- Agenda
 - *Ideal candidate profile*
 - *Applicant overview – background, structure and business model*
 - *Proposal details*
 - *Initial proposal evaluation*
 - *Next steps*
- TCCP – YourEncore review process
 - *Review Team Composition*
 - *Initial Evaluation of Proposal (Complete)*
 - *OTF Commission Input (Pending)*
 - *Further Due Diligence – contingent on Commission input (Feb-Mar)*
 - Written questions to applicant
 - Onsite interview, due diligence discussions, facility/resources review
 - *Final Evaluation (Mar)*
 - *Report Funding Recommendation/Applicable Revisions to Proposal to Commission (Apr)*

Ideal Candidate Profile

Technology Commercialization Center Program (TCCP)

- The ideal candidate for the TCCP should be able to
 - *Effectively and efficiently identify the most promising technologies from a very deep pipeline and deal flow of emerging technologies from within its core focus area*
 - *Develop from within/Attract from outside those technologies based on*
 - World-class reputation
 - Experience
 - Capabilities
 - Access to investment capital
 - Proven track record for technology development
 - *Attract \$2 of cash cost share for every \$1 of OTF funds with at least half the required cash cost share from industry and private investment capital*
 - *Commercialize the technologies in Ohio, with scale and business focus to drive significant economic impact*
 - *Present a clear and compelling value proposition for a return on investment of OTF funds*

Harrington Discovery Institute

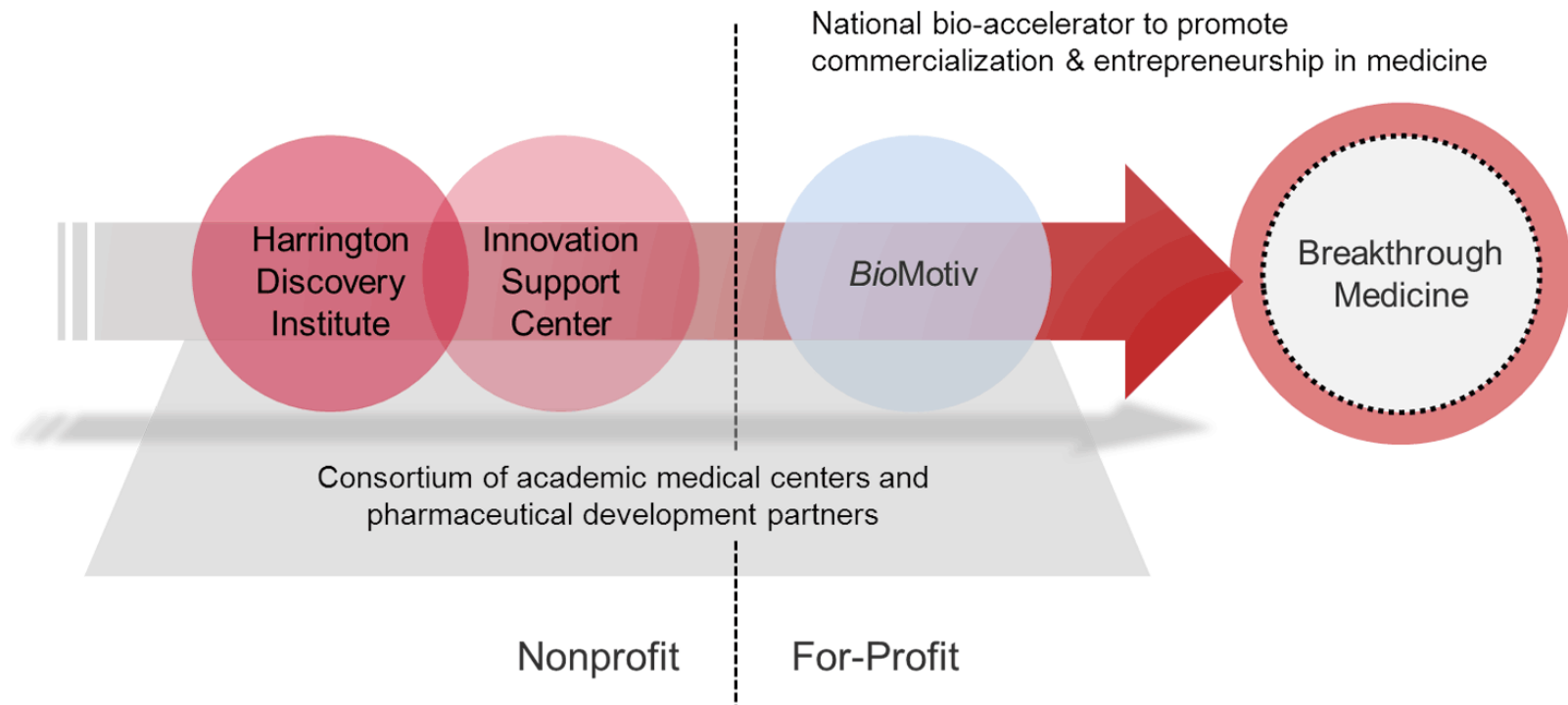
Applicant Overview

- The Harrington Discovery Institute (HDI) is the non-profit arm of the Harrington Project for Discovery and Development
 - *Founded in 2012*
 - *Intended full funding level of \$250 million in resources*
 - The Harrington family generously provided \$50 million to launch the initiative
 - BioMotiv, the for-profit accelerator within the project, has since secured \$47 million from investors, and has significant additional commitments
 - *HDI is a part of the Harrington Project, with a stated mission of accelerating the development of medicines based on breakthroughs by physician-scientists*
 - *The proposed project intends to provide value to Ohio in the following ways:*
 1. Create a pharmaceutical development hub for the nation's best technologies
 2. Utilization of Ohio-based resources to validate and develop technologies
 3. Establishment of Ohio-based start-up companies
 4. Attraction of significant additional funding
 5. Strengthen the global pharmaceutical base in Ohio

Harrington Discovery Institute

Structure and Key Components

- The Harrington Project has three major components:
 - **HDI**: A non-profit initiative focused on early-phase discovery projects
 - **The Innovation Support Center (ISC)**: A non-profit initiative focused on mentorship, resource connections and business support
 - **BioMotiv**: A for-profit accelerator company, for funding and establishing new companies around promising drug technologies, and attracting additional funding and resources to support growth



Proposal Details

Funding sources and uses

- Funding requested to support the HDI-ISC non-profit components.
 - *OTF Request: \$24,998,623*
 - *Cost Share:*
 - University Hospitals: \$25,006,079
 - BioMotiv: \$25,000,000
 - *The requested funds are intended for:*
 - Commercialization of selected projects
 - Launch of new start-up companies based on those projects
 - Development and growth of Ohio's pharmaceutical services infrastructure

Proposal Details

Current Status

- National Advisory Board (in process)
 - *HDI Scientific Advisory Board (operational)*
 - *ISC Commercialization Advisory Board (operational)*
 - *Investment Advisory Board (in process)*
- Partnerships
 - *Cures Within Reach*
 - *Alzheimer's Drug Discovery Foundation*
 - *Foundation Fighting Blindness*
- Start ups Formed
 - *Orca Pharmaceuticals*
 - *Dual Therapeutics*
- Funding Level to Date
 - *\$50MM Harrington Family*
 - *\$47MM BioMotiv*
 - University Hospitals
 - Harrington Family
 - Nationwide Mutual Insurance
- Additional Funding
 - *Torrey Pines Investments, up to \$20MM*

Proposal Evaluation

Promise of the Proposal

■ Tangible Value Proposition

- *Unique opportunity for Ohio to build upon preceding financial support*
- *High degree of selectivity, with 900 project opportunities assessed, and 28 projects selected for support*
- *Top-caliber professionals from life sciences industry on advisory boards*
- *Non-profit / for-profit model may provide competitive advantage*
- *Broad focus area allows for robust pipeline and deal flow*
- *Potential for significant economic impact as technologies advance*
- *Matching funds model limits potential downside for Ohio*
- *HDI addressing a real and serious unmet need, the growing funding gap for pre-clinical and early-stage life sciences technologies*

Proposal Evaluation

Areas of Concern

- Retentiveness of model for Ohio is unproven and unknown
 - *Model is being built, largely virtual at the moment*
 - *Short track record*
 - *Open questions on ability to attract top talent to relocate to Ohio, establish successful companies in Ohio, and build an integrated ecosystem around the model*
- Alignment with Ohio core competencies
 - *Ohio has core competencies, but in focused areas*
 - *Competition from more established pharmaceutical geographies*
- Unique definition of commercialization based on industry focus
 - *Move from pre-clinical to clinical work increases spend*
- Efficiency of model not proven
 - *Throughput success and advancement of technologies to full commercialization*
 - *Resource allocation based on large initial funding*

Next Steps

- YourEncore recommends moving forward into deeper-dive due diligence for the HDI grant request:
 - *Submission of written questions to applicants*
 - *Onsite due diligence visit and in-depth interviews*
 - *Present final findings and recommendation to OTF Commission in April*
- TCCP – YourEncore review process
 - *Initial Evaluation of Proposal (Complete)*
 - *OTF Commission Input (Pending)*
 - *Further Due Diligence – contingent on Commission input (Feb-Mar)*
 - Written questions to applicant
 - Onsite interview, due diligence discussions, facility/resources review
 - *Final Evaluation (Mar)*
 - *Report Funding Recommendation/Applicable Revisions to Proposal to Commission (Apr)*
- A second TCCP proposal has been received and is in process:
Neurotechnology Innovations Translator (NIT) from The Ohio State University



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Entrepreneurial Support Programs – Planning for 2015/16

Entrepreneurial Support Programs

Objectives:

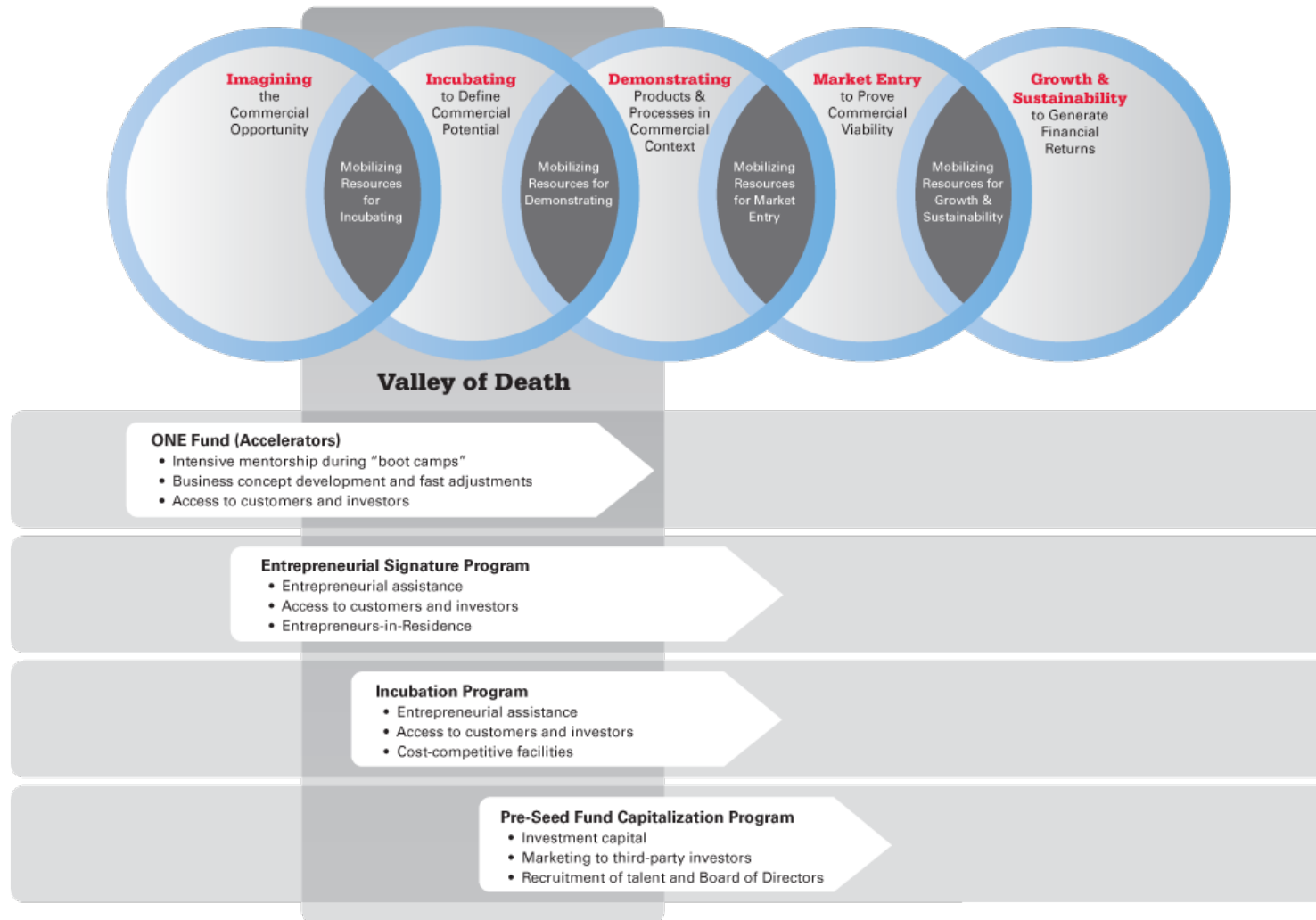
1. Foster a vibrant entrepreneurial ecosystem in Ohio that increases the number of quality technology start-ups
2. Improve the likelihood of success and accelerate the growth of young Ohio technology companies by providing high-value coaching, resources and connections to entrepreneurs
3. Increase the capital invested in Ohio technology companies; attract or retain top entrepreneurial talent in Ohio
4. Promote entrepreneurial successes and generate buzz about entrepreneurship in Ohio

Services:

1. Intensive coaching from seasoned entrepreneurs, industry experts and investors
2. Market research and validation; business strategy and path to market
3. Connections to customers, strategic partners and investors; recruiting C-level and technical talent
4. Investment preparation; access to capital
5. Legal, tax and accounting support
6. Patent protection; regulatory strategy

Innovation and Entrepreneurship

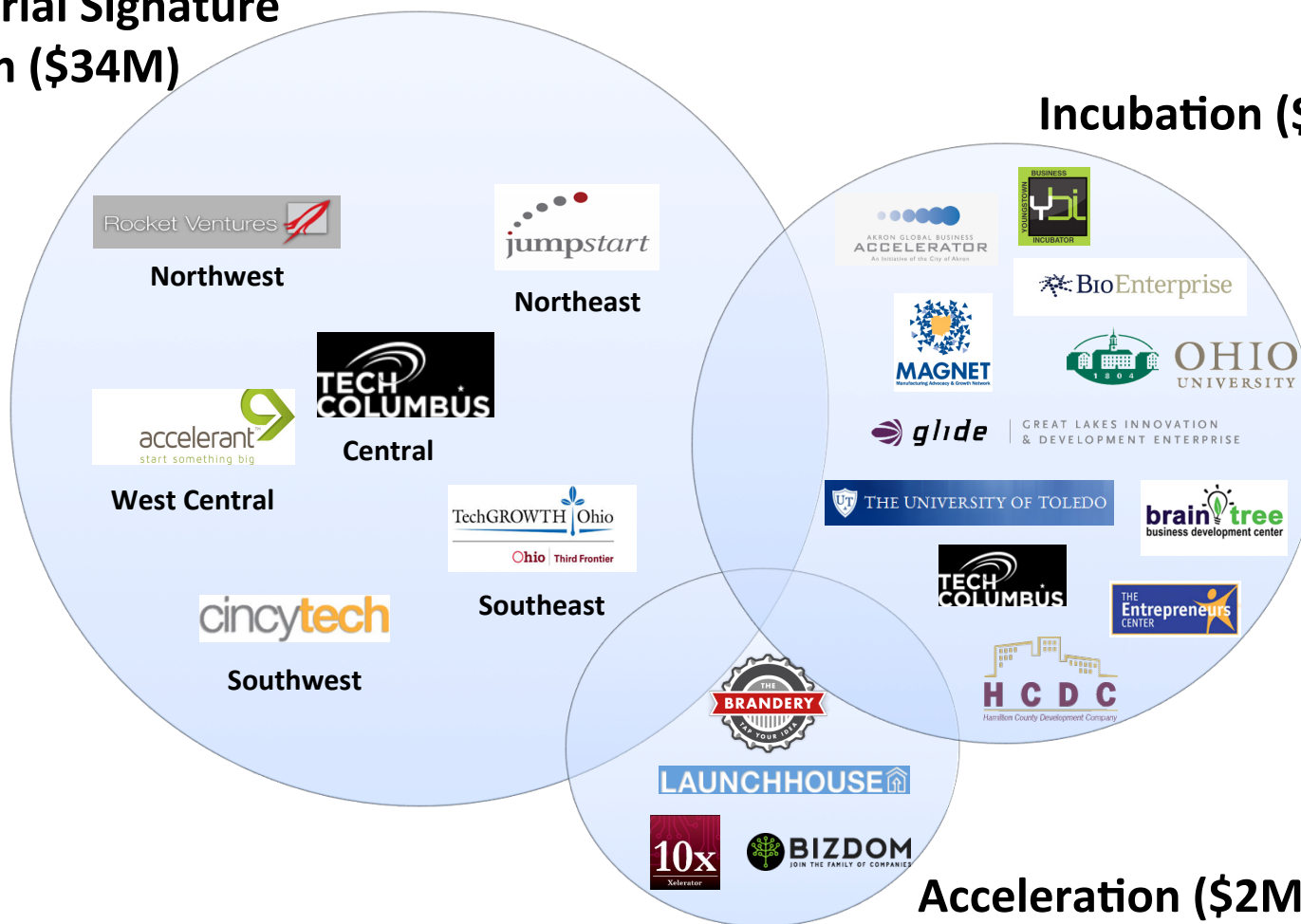
Technology Commercialization Framework



Entrepreneurial Support Programs

Entrepreneurial Signature Program (\$34M)

Incubation (\$10M)

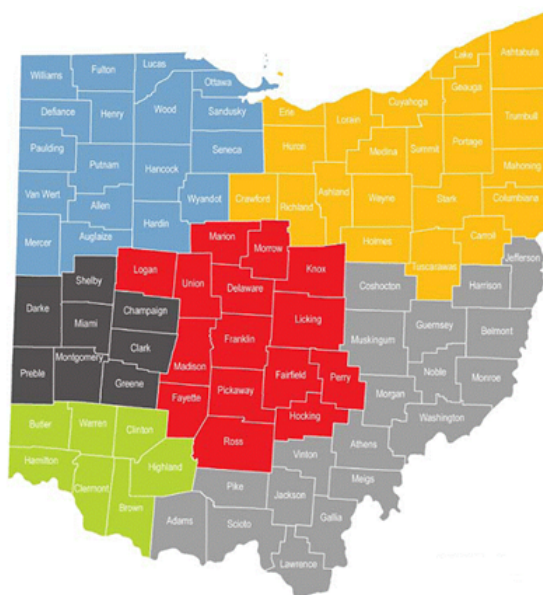


Rationale for Program Integration

- **Shared mission:** help young technology companies grow
- **Existing relationships:** current ESP support
- **Program use:** many companies touch multiple programs
- **Ecosystem:** foster regional collaboration
- **Metrics:** better coordination
- **Services:** optimal delivery
- **Incubator alignment:** opportunity to serve more high-growth companies

Next Steps for the April 9th Third Frontier Commission Meeting

- Regional Strategy Presentations
- Discussion about 2015/16 Request for Proposals



Discussion

- General direction
- What does success look like for entrepreneurial services?

Metrics System Update

Survey of High Performers

- Preparing to survey high-performing companies identified in December
 - Open-ended, web based survey with 8-10 questions
- Focus is primarily forward-looking – characterize outlook/prospects and resources necessary to continue growth
 - Not limited to Ohio Third Frontier – want to understand any/all issues
- Ray Bliss Institute at University of Akron is assisting in programming and execution
 - Survey will launch soon, results to be shared at April meeting

Survey Specifics

- Survey will consist of 8-10 questions to maximize response
 - Basic information (industry, region, stage of development)
 - Identification of critical success factors to date
 - Prospects for growth and programs/resources needed going forward
 - Degree to which Ohio Third Frontier and/or other state programs can address challenges or obstacles
 - Other (non-OTF) resources, assistance or tools that are needed/helpful
- Survey responses are anonymous, but companies will be given opportunity to disclose and participate in follow-up interview
 - Potential to have some respondents available for April meeting

Metrics System Update

- System architecture is built and existing data has been fully migrated
- Integration of intermediary data is still ongoing, system should be fully operational by April meeting
- Already utilizing some of the data for current programs
 - Commercial Acceleration Loan Fund / Targeted Investment Program data verification; identification of next high performers; entrepreneurial programs