

Ohio

Third Frontier

Innovation Creating Opportunity

Commission Meeting

February 13, 2013

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Agenda

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|--------------|---|--|
| 10:00 | Call to Order
Approve 12/13/2012 Meeting Minutes | Chair |
| 10:05 | Program Award Decisions
Industrial Research and Development Center Program
Ohio's New Entrepreneurs Fund
Pre-Seed Fund Capitalization Program: Follow-Up | Nate Green
Mihaela Jekic & UVG
Lisa Delp |
| 10:50 | Guest Speaker – Unmanned Aerial Vehicles (UAVs) | Joe Zeis, DDC |
| 11:05 | Program Presentations and Discussion
Technology Asset Grants
Commercial Acceleration Loan Fund
Targeted Industry Attraction Program
Technology Commercialization Centers | Anthony Howard
Lisa Delp
David Zak
Norm Chagnon |
| 12:00 | Ohio Third Frontier Marketing | Todd Walker |
| 12:15 | Ohio Third Frontier Annual Report | Lisa Delp |
| 12:25 | Other Business | |
| 12:30 | Adjourn | |

Industrial Research and Development Center Program

Goals and Objectives

- Attract large, nationally designated and highly visible corporate, nonprofit, and federal R&D centers to Ohio by providing matching funds to enhance the potential for a center being located in Ohio
- Increase the reputation and visibility of Ohio within targeted industry areas
- Support centers which conduct value-added applied research at the direction of or in collaboration with Ohio industry, perform industry-directed and industry-oriented problem solving, and develop technologies that can be commercialized by or in partnership with an Ohio for-profit company

Program Basics

- **Lead Applicants:** State-supported/assisted college or university or an Ohio nonprofit research organization that is competing for a federally funded R&D center to be in Ohio. Or a for-profit company planning to establish a corporate R&D center in Ohio.
- **Funding:** \$20 million (FY13); Award amount to be 15% of primary sponsor funding received to establish the Ohio center, with an Ohio Third Frontier award cap of \$5 million
- **External Evaluator:** Taratec Corporation

Cooper Tire Global Technical Center

- **Applicant:** Cooper Tire & Rubber Company
- **Collaborators:** University of Toledo; The Ohio State University/Center for Automotive Research (OSU/CAR); The Ohio State University/ Ohio Agricultural Research and Development Center (OSU/OARDC)
- **Cooper Tire & Rubber Commitment:** \$41,575,000
 - \$15.375 million in payroll
 - \$13.5 million in purchased services
 - \$10.9 million in equipment purchases
 - \$1.1 million in travel
 - \$400,000 in supplies
 - \$300,000 in building & structure expenses
- **IRDCP Recommended:** \$2,800,000
 - Building & Structure expenses, \$1,700,000; Personnel/Fringe, \$1,025,000; Architectural Services, \$75,000
- **Job Commitment:** 40 jobs over 3 years
- **OTF Alignment:** Advanced Materials



Cooper Tire Global Technical Center

Purpose of the Center

To drive research and development of advanced tire and material technologies for application in marketable products and to serve their regional Technical Centers in Findlay, OH, England and China

- Concentrate and accelerate applied research to develop technology for incorporation in new products around the world
- Deliver significant improvements in technology and product development throughput, speed and efficiency
- Leverage Ohio's academic strengths in advanced materials research and testing

Cooper Tire Global Technical Center

Commitment Recommendation

Industrial Research and Development Center Program commitment of \$2,800,000 to Cooper Tire & Rubber Company to support their costs for building and structures, personnel and fringe, and architectural services. Funding is contingent upon Cooper's commitment of \$41,575,000 for the project and Cooper's commitment to create 40 new, full-time equivalent jobs, as well as Cooper's commitment to locate the Center in Findlay, Ohio.

Ohio's New Entrepreneurs (ONE) Fund



Goals and Objectives

Goals:

- Attract and retain top entrepreneurial talent in Ohio
- Link young companies with follow-on capital
- Create visibility and excitement about entrepreneurship in Ohio

Objective:

- Support Ohio business accelerators which have the potential to become world-class

Program Basics

- ***Lead Applicants:*** Ohio business accelerators
- ***Funding:*** \$1 million; Support up to 10 teams of entrepreneurs per accelerator at \$20,000 per team
- ***External Evaluator:*** Urban Venture Group (UVG), YourEncore



ONE Fund

Reviewer Report and Recommendations

Ohio Third Frontier Commission

February 13, 2013



Applications Received

Proposal Number	Applicant	Accelerator Name	Funds Requested
13-901	LaunchHouse	LaunchHouse Accelerator (LHX)	\$200,000
13-902	FlashStarts, Inc.	FlashStarts	\$200,000
13-903	Technology Accelerator Alliance	TA ²	\$200,000
13-904	Founders Factory	10-xlerator (10x)	\$200,000
13-905	Main Street Ventures	The Brandyery	\$200,000
13-906	Bizdom U Fund	Bizdom Cleveland	\$200,000



Evaluation Results

Ctrl #	Applicant	Stage 1 Review	Primary			Secondary		Assessment	Funding Recommendation
			1	2	3	4	5		
13-905	The Brandery	Pass	Excellent	Excellent	Excellent	Excellent	Excellent	World-Class	Fund
13-901	LaunchHouse	Pass	Excellent	Good	Good	Good	Good		
13-904	10x	Pass	Good	Acceptable	Good	Good	Excellent		
13-906	Bizdom Cleveland	Pass	Good	Good	Acceptable	Excellent	Good		
13-902	FlashStarts, Inc.	Pass	Poor	Poor	Poor	Poor	Acceptable	Unlikely to achieve goals	Do not fund
13-903	TA ²	Pass	Poor	Poor	Unacceptable	Poor	Unacceptable		

Primary Criteria:

1. Qualifications of Lead Applicant
2. ONE Fund Program Alignment
3. Innovative Program Structure

Secondary Criteria:

4. Plan, Funding and Resources
5. Team Engagement

Legend:

- – excellent
- – good
- – acceptable
- – poor
- – unacceptable





The Brandery



Teams	Funding	Recommendation summary
10	\$200,000	Currently recognized as a world-class accelerator. Focus on branding and consumer products. Leverages unique Ohio strength in consumer products industry.

Strengths

- 18 of 25 previous teams have raised \$14.7 million
- Large national mentor network
- Large global investor network
- Recognized as a top accelerator in nation
- Leverages SW Ohio strengths in consumer products and branding

Weaknesses

- No substantial weaknesses noted



LaunchHouse



Teams	Funding	Recommendations Summary
10	\$200,000	Innovative methodology and methods to apply learning. A committed mentor network. Strong brand with national and international presence. 2012 accelerator program results promising.

Strengths

- Innovative accelerator methodology
- Established incubator program
- Local brand with some national recognition
- Connections to regional startup community

Weaknesses

- Newer accelerator program
- No specific industry focus or alignment with Ohio industry strengths



Teams	Funding	Recommendation summary
10	\$200,000	An engaged mentor network and highly committed management team are the foundation of this program. Track record, while relatively short-lived, is impressive.

Strengths

- Dedicated mentor network
- 17 of 27 teams have raised \$6.4 million (~11x leverage)
- 16 of 20 active teams retained in Ohio
- IT Industry focus aligned with Third Frontier
- Programmatic track record

Weaknesses

- Newer accelerator program
- No formal business and branding strategy to realize aspirational 'world-class' goals



Bizdom Cleveland



Teams	Funding	Recommendation summary
10	\$200,000	An established model, transplanted from Detroit, with a strong track record. Focus on entertainment and finance is enabled by close alignment with the Quicken Loans family of companies.

Strengths

- Unique industry focus (entertainment and finance)
 - Leverages Ohio industrial strength
 - Alignment w/ Quicken Loans cos.
- High likelihood of achieving goals
 - Proven accelerator track record
 - Well-defined accelerator program
 - Sustainable funding model

Weaknesses

- Program lacks innovative methodology
- Narrow industry focus may reduce accelerator impact
 - Challenging to find qualified teams
 - Reduce magnitude of economic impacts for Ohio



FlashStarts



Strengths

- Founder is an experienced serial entrepreneur
- Leverages NE Ohio colleges to identify and attract teams

Weaknesses

- Unclear commitment to accelerator philosophy
 - Program vision changed through the course of the evaluation
- Detail lacking in plan for attracting teams
- Book publishing idea unproven
- Commitment of mentors and investors uncertain



Strengths

- Well-connected in greater Alliance area
 - Strong evidence of commitment from local stakeholders
- Leverages Mt. Union alumni network for mentors and potential follow-on investment

Weaknesses

- Program's academic structure unlike world-class accelerators
- Low team involvement
 - No residency or full-time participation required
- Lack of deep, committed mentor network
- No clear plan to attract high quality teams
 - Especially from outside local area
- Plan for leveraging Ohio strengths lacks detail
- Management plan and demo day poorly defined



UVG Ltd.

Questions?

Pre-Seed Fund Capitalization Program

Impact Angel Fund, LLC

- Award decision for the Impact Fund deferred from December 2012 TFC meeting
- Lead Applicant directed to revise their proposal to show how they will address weaknesses identified by the evaluator
- Staff directed to provide funding recommendation to the Commission at the February 2013 TFC meeting

Additional Pre-Seed Capital Request

- Nine lead applicants were approved for funding through the Pre-Seed Fund Capitalization Program in the FY12 round; a total of \$24 million was awarded
- Approved funds have requested an opportunity to have their award increased by up to \$2 million
- Eight of the nine approved funds have requested additional capital

Additional Pre-Seed Capital Request

<i>Lead Applicant</i>	<i>Original Fund Request</i>	<i>Award Amount</i>	<i>Additional Fund Request</i>
Cleveland Clinic	\$3,000,000	\$3,000,000	\$2,000,000
Queen City Angels	\$3,000,000	\$3,000,000	\$1,000,000
Ohio University & TechGROWTH	\$1,875,000	\$1,875,000	\$1,000,000
Case Western Reserve University	\$3,000,000	\$3,000,000	\$1,000,000
TechColumbus	\$2,000,000	\$2,000,000	\$2,000,000
Ohio TechAngel Fund IV	\$3,000,000	\$3,000,000	\$1,000,000
Lorain County Community Foundation	\$2,125,000	\$2,125,000	\$0
JumpStart Inc.	\$3,000,000	\$3,000,000	\$2,000,000
Cincinnati USA / CincyTech	\$3,000,000	\$3,000,000	\$2,000,000
TOTAL:		\$24,000,000	\$12,000,000

UAS Opportunities

**Briefing to Ohio Third Frontier Commission
13 February 2013**

**Richard Honneywell
Vice President, Aerospace**



Ohio UAS Opportunities

- UAS industry expected to grow from \$6B/yr to 11B/yr (\$94B over 10 years) per Teal Group analysis
 - Military dominating market today – Commercial emerging
 - Research driving business cases for numerous application areas: First Responders, Agriculture, Resource Survey, etc.
- FAA working to integrate UAS into National Airspace
- National Legislative push for UAS integration by 2015
- National Test Sites in process of being established
- Proximity to national center of aerospace in US
 - Aerospace Supply Chain (#1 Airbus, #1 Boeing, #3 Northrup)
 - DOD Research and Acquisition: HQ AFMC - AFLCMC - AFRL

Ohio UAS Strategy

Strategic Partnerships



U.S. AIR FORCE



UAS Center and Test Complex

Industry & Commercial Partners

Industry

- Airframe
- Sensors
- Data Fusion
- Structures & Materials
- Power & Propulsion
- Electronics

Academia

- Kent State
- OSU
- OU
- UDRI
- WSU



Ohio UAS Activities



- **Creates strategic partnerships with AF, FAA, NASA, Pilot and Airline organizations**
- **Establishes Airspace requirements for USAF in Ohio**

- **Ohio standing up UAS Center for research, development and training**
- **Enable commercial UAS development under current FAA regulations**
- **Airspace and infrastructure are critical attractors for industry**

- **Creates strategic partnership with FAA, NASA and AF in research for UAS integration into NAS**
- **Win Designation for Ohio-based National UAS Test Site**
- **Establish focal point for commercial UAS development**



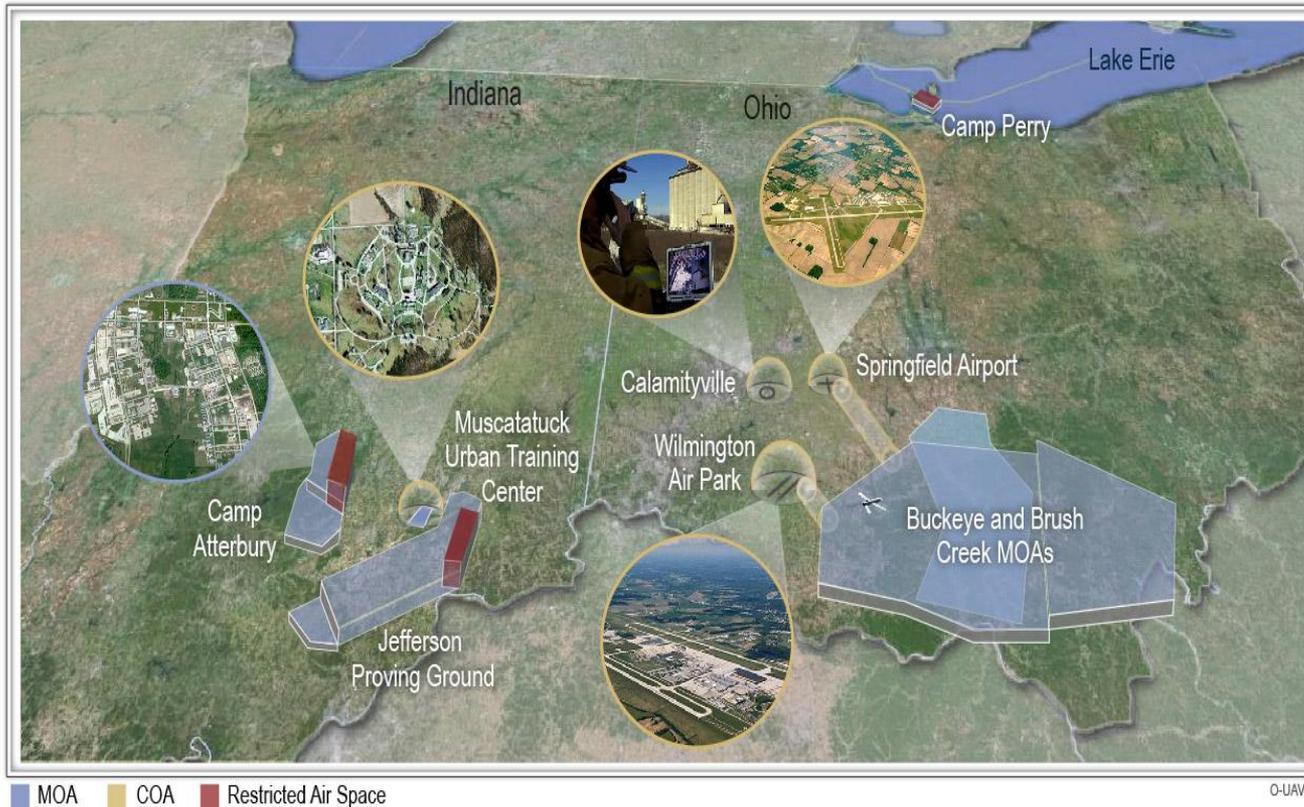
August 8, 2012

OHIO LAUNCHES ONE-STOP-SHOP FOR UNMANNED AIRCRAFT EFFORTS

Will Partner with Indiana in Pursuit of One of Six FAA Test Sites

- **Ohio announced it is creating the Ohio Unmanned Aircraft Systems Center and Test Complex to serve as a single-point resource for government, industry, and universities to conduct research, train personnel, and develop technologies and procedures to safely integrate unmanned aircraft systems (UAS) into the National Airspace System.**
- **Center will facilitate industry's efforts by leveraging Ohio's significant, existing UAS-ready resources, including a flight test range, airfields and a full complement of modeling, data analysis, research centers and engineering services.**
- **Governor Kasich and Indiana Governor Mitch Daniels agreed to jointly seek FAA designation as one of six test range sites under a five-year program created by Congress to accelerate the safe integration of UAS in the National Airspace System. The range proposed to the FAA will also include airspace used by Camp Atterbury, a training base of the Indiana National Guard near Edinburgh, Indiana, as well as other nearby infrastructure.**
- **Ohio UAS Center will be a problem-solver and door-opener for anyone needing airspace, access to ground facilities, research and analytic support and everything else it takes to move the UAS frontier forward safely, successfully and steadily.**
- **Start-up costs will be paid by the State of Ohio, with the Center eventually becoming self-funded through user fees.**

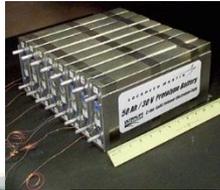
UAS Center & Test Complex



Planned airspace and infrastructure enables development for emerging commercial UAS industry

- Ground-based Sense & Avoid
- Modeling & Simulation
- Data/Knowledge Mgmt.
- Frequency Mgmt. & Control
- NextGen
- UAS Sensor Carriers

Technology Opportunities



- System Integration
- Sensors
- Data Fusion
- Propulsion
- Airframe Structure
- Materials & Manufacturing
- Miniaturized Electronics
- Command, Control & Communications
- Autonomy
- Sense & Avoid
- Failure recovery
- Lost Link
- Complex Ground Operations
- Modeling & Simulation
- Training

Emerging Business Cases



Low altitude/small UAS offer next major opportunity to apply UAS technologies

- **First Responders**
- **Precision Agriculture**
 - Blight detection/ prec. control
 - Moisture detection
 - Harvest
- **Resource Survey**
 - Mining
 - Electrical infrastructure
 - Water
 - Transportation infrastructure
- **Geospatial Mapping**

Future opportunities

- **Media**
- **Logistics + more**



Summary

- **Commercial UAS market emerging as result of national efforts by Congress, FAA, DOD**
- **Ohio positioned to leverage opportunity**
 - Research
 - Development resources
 - Aerospace research and supply chain concentration
- **Support to UAS commercialization opportunities will enhance Ohio's position nationally**

Program Presentations

Technology Asset Grants

\$15M has been allocated for the Technology Asset Grant (TAG) Program to fund projects that:

- Support the construction, fabrication, or acquisition of new, highly specialized technical equipment and facilities that have an industry scale
- Represent a competitive advantage for Ohio companies within a targeted industry sector
- Directly lead to production/manufacturing in Ohio

Technology Asset Grants

Minimum Project Cost – \$4 million expended during a period of not more than three years for both capital and operating expenses

Maximum Project Support – 25% of a project's total cash costs up to \$5 million for a period of not more than three years

Acceptable Expenditures – construction, fabrication, or acquisition of highly specialized technical equipment and facilities and not their associated operating expenses

Acceptable Cost Share – must be in the form of unrestricted cash

Sustainability – defined strategy for attracting Ohio industry interest and support of the infrastructure beyond the initial sponsors.

Open RFP

Commercial Acceleration Loan Fund

\$20M has been allocated for the Commercial Acceleration Loan Fund (CALF) for providing principal to:

- Support loans with competitive terms to finance projects which will have a positive economic impact on the state
 - State will require a 2x return on principal, which includes a 4% to 7% royalty on product sales
- Supply capital to early-stage (pre-revenue or post-revenue) businesses that have difficulty securing funds from conventional sources due to technical and commercial risk factors

Commercial Acceleration Loan Fund

Lead Applicants – Ohio companies that need capital to move innovative technology-based products and services to meaningful market entry and to prove commercial viability

Funding – \$500,000 to \$2.5 million loans that do not exceed 75% of allowable project costs

Use of Funds – Business expenses which may include working capital

Open RFP – CALF applications, due diligence documents and other materials will be evaluated by JobsOhio, ODSA, and external reviewers

Technology Commercialization Centers

\$50M has been allocated for the Technology Commercialization Center Program to fund projects that:

- Accelerate commercialization of technologies in existing research platforms of excellence concentrated within one or more Ohio universities, medical centers or other non-profit research institutions
- Have sufficient scale to advance a deep pipeline of professionally vetted products and services
- Represent research and associated activities having a proven track record of commercialization success
- Focus on a targeted industry sector

Technology Commercialization Centers

- **Lead Institution** – concentrated in a single lead (primary) institution having relevant collaborative relationships
- **Boards** – led by a board predominantly consisting of individuals with business and investment capital experience, experience in the technical industry area, and the authority to direct the use of Center resources
- **Staff** – managed by key staff recruited from the investment community and technical industry area
- **Capital** – engaged directly with already committed or in hand sources of venture or other investment capital

Technology Commercialization Centers

- **Minimum Project Cost** – have a total cash cost of not less than \$30 million expended during a period of four years
- **Maximum Program Support** – up to one third of a Center's total cash costs, up to \$25 million, for a period of not more than four years
- **Acceptable Expenditures** – funds can be used for operational expenses as well as fixed assets
- **Acceptable Cost Share** – in the form of unrestricted cash
- **Open RFP**

Marketing

Ohio Third Frontier Marketing

- **Scope of Work** – Develop and execute a comprehensive marketing plan that effectively communicates the successes, assets and opportunities of Ohio’s technology economy within and outside of Ohio
- **Goals**
 - Communicate OTF incentive opportunities to potential Ohio customers
 - Reach a national audience to attract future capital, talent and companies to Ohio
 - Educate Ohio taxpayers on OTF successes and accomplishments

Ohio Third Frontier Marketing

- **Target Audience**
 - Ohio – early-stage high-tech businesses; entrepreneurs; angel and VC investors; colleges and universities; research institutions; taxpayers
 - Out-of-State – high-tech businesses; entrepreneurs; angel and VC investors; research institutions
- **Budget** - \$1 million to \$1.5 million per year
- **RFP Timeline**

2012 Annual Report

Other Business

Next Meetings:

Joint Third Frontier Advisory Board and Commission
April 10, 2013

Third Frontier Commission
April 10, 2013