



Ohio Third Frontier
Commission Meeting

November 21, 2019

Ohio | Development Services Agency United States Census 2020 **BE COUNTED** ✓ Ohio **Ohio** | **Third Frontier**
Innovation Creating Opportunity

1



Call to Order and Approval of the
08/27/2019 Meeting Minutes

Ohio | Development Services Agency United States Census 2020 **BE COUNTED** ✓ Ohio **Ohio** | **Third Frontier**
Innovation Creating Opportunity

2

A background graphic consisting of a network of blue dots connected by thin lines, forming a mesh-like structure that tapers from the right side towards the left.

Introductions

Jack Christopher
Chief Counsel

Scott Ryan
Executive Director

Ohio | Development Services Agency United States Census 2020 BE COUNTED ✓ Ohio **Ohio** | Third Frontier Innovation Creating Opportunity

3

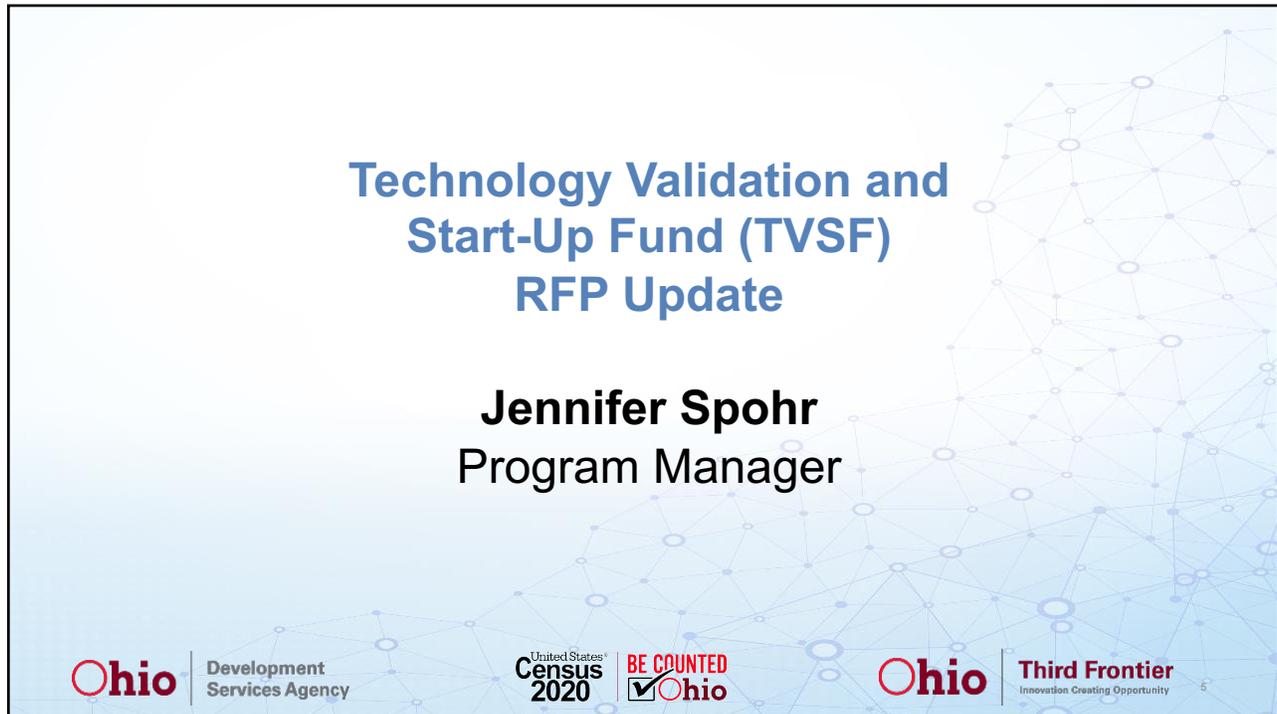
A background graphic consisting of a network of blue dots connected by thin lines, forming a mesh-like structure that tapers from the right side towards the left.

Ethics Training

Jack Christopher
Chief Counsel

Ohio | Development Services Agency United States Census 2020 BE COUNTED ✓ Ohio **Ohio** | Third Frontier Innovation Creating Opportunity

4

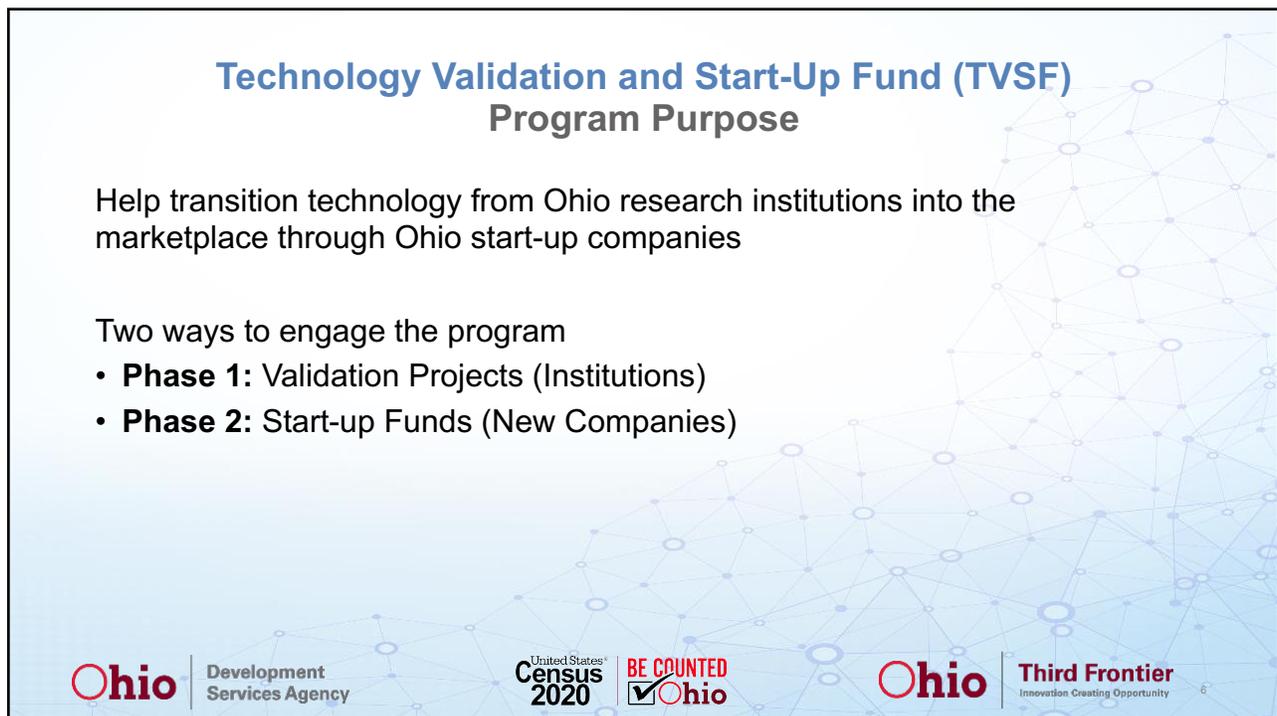


Technology Validation and Start-Up Fund (TVSF) RFP Update

Jennifer Spohr
Program Manager

Ohio | Development Services Agency United States Census 2020 | **BE COUNTED** Ohio **Ohio** | **Third Frontier**
Innovation Creating Opportunity

5



Technology Validation and Start-Up Fund (TVSF) Program Purpose

Help transition technology from Ohio research institutions into the marketplace through Ohio start-up companies

Two ways to engage the program

- **Phase 1:** Validation Projects (Institutions)
- **Phase 2:** Start-up Funds (New Companies)

Ohio | Development Services Agency United States Census 2020 | **BE COUNTED** Ohio **Ohio** | **Third Frontier**
Innovation Creating Opportunity

6

Technology Validation and Start-Up Fund (TVSF) Lead Applicants

<p>Phase 1</p> <p>Ohio institution of higher education, or not-for-profit research institution with sufficient internal deal flow to support a multitude of projects.</p> <p>Awards range from \$200,000-\$500,000 with 1:1 cash cost share.</p> <p>Goal License to startups</p>	<p>Phase 2</p> <p>Ohio start-ups and young companies that are prospective licensees of technology from institutions.</p> <p>Awards up to \$100,000 (or \$150,000 if in biomedical technology) as initial capitalization with no cost share.</p> <p>Goal Raise Capital / Market Entry</p>
--	--







7

Technology Validation and Start-Up Fund (TVSF) Round 20 Evaluation Report

Evaluators

Jim Sonnett, PhD
Susan Stanton, PhD
Redwood Innovation Partners







8



TVSF Round 20 Evaluation
Jim Sonnett PhD, Susan Stanton PhD
November 21, 2019



Columbus . Boston . Carlsbad redwdinnov.com 9

9

Outline

- Redwood Introduction
- Round 20 overview
- Evaluation Process Description
- Funding Recommendations
- Applicant Snapshots
- Analysis and Recommendations



Columbus . Boston . Carlsbad redwdinnov.com 10

10

Redwood has a well qualified proposal evaluation team

- Redwood, an LLC based in Columbus, was founded in 2013 by former Battelle executives
- A four person team is performing the evaluations – all have extensive business acumen AND advanced technical degrees (3 PhDs).
 - 100+ years of combined experience in senior Commercial / Innovation roles at major corporations, research institutions, venture capital firms and start-ups.
 - Cumulative new product sales in excess of \$1.5 B
 - Depth and breadth in 5 of 6 Third Frontier focus areas (external experts are used for sensors)
- The Redwood team has served as evaluators for the Ohio Advanced Manufacturing program and CALF, TIP and IOF loan programs for multiple years



Columbus . Boston . Carlsbad

redwdinnov.com

11

11

Round 20 Overview

- 21 Applications Totaling \$2,885,000
- 9 Awards Recommended Totaling \$1,350,000
- Phase 1 applications from Ohio Health and U Toledo total \$450,000
 - Funding of both Phase 1 applications is recommended
- 19 Phase 2 applications total \$2,435,000
 - Funding of seven Phase 2 applications totaling \$900,000 is recommended



Columbus . Boston . Carlsbad

redwdinnov.com

12

12

Round 20 Overview (Continued):

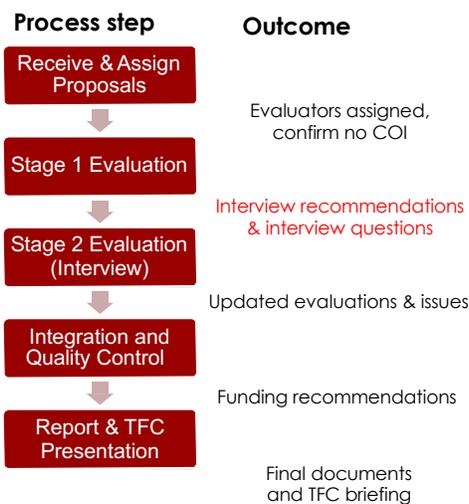
- Round 20 approval rate is 43%, which is comparable to the overall rate of 41%

Round	\$ Recommended	Approval Rate
1 (APR 2012)	\$950,000	35%
2 (AUG 2012)	\$900,000	52%
3 (DEC 2012)	\$610,000	44%
4 (JUN 2013)	\$864,000	30%
5 (FEB 2014)	\$1,462,000	46%
6 (JUN 2014)	\$998,000	39%
7 (OCT 2014)	\$1,100,000	57%
8 (FEB 2015)	\$710,000	37%
9 (JUN 2015)	\$550,000	31%
10 (DEC 2015)	\$925,000	38%
11 (APR 2016)	\$1,239,000	46%
12 (OCT 2016)	\$3,537,269	46%
13 (MAR2017)	\$1,567,500	38%
14 (SEP 2017)	\$498,832	27%
15 (DEC 2017)	\$2,250,000	38%
16 (MAR 2018)	\$2,098,600	52%
17 (SEP 2018)	\$2,100,000	42%
18 (DEC 2018)	\$1,150,000	35%
19 (APR 2019)	\$2,250,000	43%
20 (NOV 2019)	\$1,350,000	43%
Overall	\$27,110,201	
Average	\$1,355,510	41%



13

Redwood has a comprehensive evaluation process, that assures high quality



14

Phase 1 & 2 Evaluations Use Variable Criteria Weightings

Phase 1

Criterion	Weighting
Alignment & Compliance	Go / No go
Project Selection Committee	20
Deal Flow; Budget Strategy	15
External Participation	15
Track Record	15
Metrics	15
Project Management & Experience	15
Project Selection Process	5

Phase 2

Criterion	Weighting
Alignment & Compliance	Go / No Go
Management Team	20
Opportunity / market size	15
IP Protection / License	15
Compelling Proof of Concept	15
Potential Investor / Business Partner Engagement	10
Business Model	10
Project Plan / Budget Narrative	5
Start-up in Ohio	5
ESP Interaction	5



Note: 1) Column heights are proportional to weighting

Columbus . Boston . Carlsbad

redwdinnov.com

15

15

Funding Recommendations are Developed as a Team Using Common Standards

TVSF Round 20 Proposal Evaluations											
Phase 2 Proposals											
Proposal	Interviewed?	Recommend Funding?	Team	Opportunity / Market Size	IP Protection / License	Compelling Proof of Concept	Potential Investor / Business Partner Engagement	Business model	Project plan / budget narrative	Start-up in Ohio	ESP Interaction
A	Yes	Yes									
B	Yes	No									
C	Yes	Yes									
D	Yes	Yes									
E	Yes	Yes									
F	Yes	Yes									
G	Yes	Yes									
H	Yes	Yes									
I	Yes	No									
J	No	No									
K	No	No									
L	Yes	No									
M	No	No									
N	No	No									
O	No	No									
P	No	No									
Q	No	No									
R	No	No									
S	No	No									
			Absent	Poor	Weak	Meets	Exceeds	Outstanding			



Note: 1) Column widths are proportional to weighting

Columbus . Boston . Carlsbad

redwdinnov.com

16

16

Phase 1 Recommended Funding



Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding
20-0021	OhioHealth Research and Innovation Institute	Healthcare Technology-2: TVSF Phase 1	\$250,000

Comments:

- Strong selection committee and project management
- IP model encourages clinician entrepreneurs
- Efforts to increase opportunity flow



Columbus . Boston . Carlsbad

redwdinnov.com

17

17

Phase 1 Recommended Funding



Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding
20-0022	University of Toledo	UT Rocket Fuel Fund II	\$200,000

Comments:

- Strong history in biomedical / life sciences, research in several Third Frontier areas
- Promising new commercialization hires, new efforts to increase opportunity flow



Columbus . Boston . Carlsbad

redwdinnov.com

18

18

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0003	CAPTURE Collective	... Biomarkers for Radiation Biodosimetry	\$150,000	The Ohio State University

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0004	RooSense, LLC	Wearable Fabric Hydration Monitor	\$100,000	University of Akron



Columbus . Boston . Carlsbad

redwdinnov.com

19

19

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0010	Exotome, LLC	Development of therapeutics for image guided surgery and adjuvant treatment of prostate cancer	\$150,000	Case Western Reserve University

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0014	Akron PolyEnergy Inc	Polymer Binder for Silicon Anode based Lithium Batteries	\$100,000	University of Akron



Columbus . Boston . Carlsbad

redwdinnov.com

20

20

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0015	IR MedTek	Commercialization of a Fast Infrared Probe for Rapid Cancer Detection / Skin Cancer Detection	\$150,000	The Ohio State University



Columbus . Boston . Carlsbad

redwdinnov.com

21

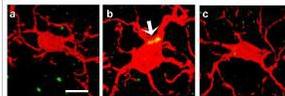
21

Snapshot of Phase 2 Funding Recommendation – NeuroTherapia



Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0003	NeuroTherapia, Inc	Synthesis of ^{11}C NTRX-07, a Novel Tool to Assess Microglial Activation in Patients / Alzheimer's Therapeutic	\$150,000	Cleveland Clinic

- Cleveland Clinic spinoff company created in 2015.
- Focus: Treatment of neuroinflammatory disease.
 - Initially targeting treatment of Alzheimer's Disease.
- Lead product, NTRX-07, shown to reduce memory loss in rodent models.
- Investigational New Drug (IND) accepted by FDA, goal to initiate first in human clinical trials.
- \$3.2 M financing in convertible notes plus \$0.7 M grant from Alzheimer's Association.



Columbus . Boston . Carlsbad

redwdinnov.com

22

22

Snapshot of Phase 2 Funding Recommendation – Matsaki Technologies

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
20-0013	Matsaki Technologies Inc	Low-Cost High-Value Innovative Infrared Sensor System	\$100,000	The Ohio State University

- Ohio State University spinoff company created in May 2019.
- Focus: IR Sensor system platform technology.
 - Initially targeting stand-off natural gas leak detection.
- Initial low cost, high quality IR sensing product will be able to detect natural gas leaks from 100 feet.
- Significant industry input regarding technical specs and market pull.



Columbus . Boston . Carlsbad

redwdinnov.com

23

23

Round 20 Analysis & Recommendations



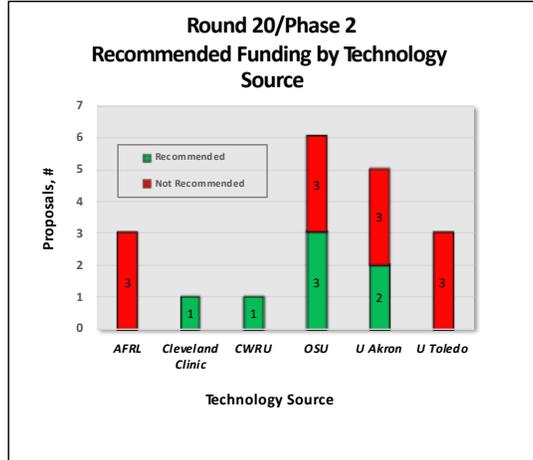
Columbus . Boston . Carlsbad

redwdinnov.com

24

24

Ohio State was the Most Active Phase 2 Applicant



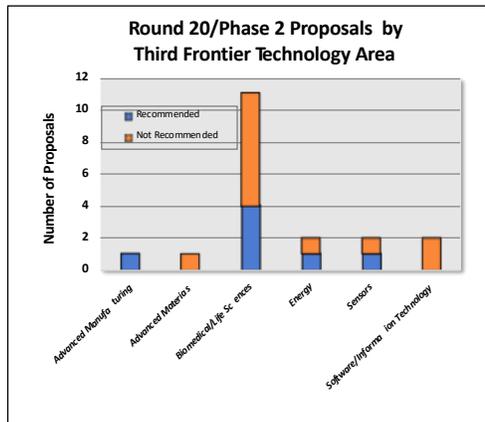
Columbus . Boston . Carlsbad

redwdinnov.com

25

25

Biomedical / Life Sciences Comprise Over Half the Phase 2 Applications



Recommendation => Develop strategies to encourage proposals in non-biomedical areas

Columbus . Boston . Carlsbad

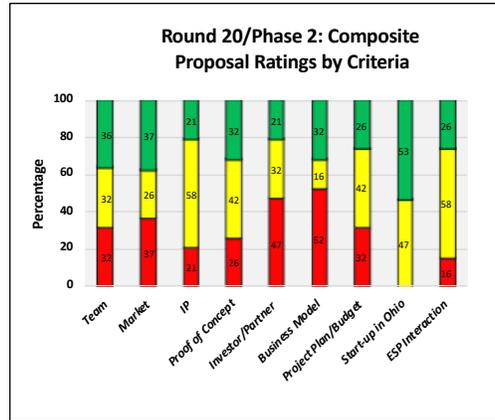
redwdinnov.com

26 26

26

Phase 2 Composite Rankings show:

- Management Team and Market were the Highest Rated Criteria
- Business Model and Investor / Partner Engagement were Lowest



Recommendation: => Revise RFP to encourage proposal clarity and uniformity, especially in market, business model and investor / partner engagement

Columbus . Boston . Carlsbad

redwdinnov.com 27 27

Technology Validation and Start-Up Fund (TVSF)

Round 20 Recommendations





Entrepreneurial Services Provider (ESP) Program

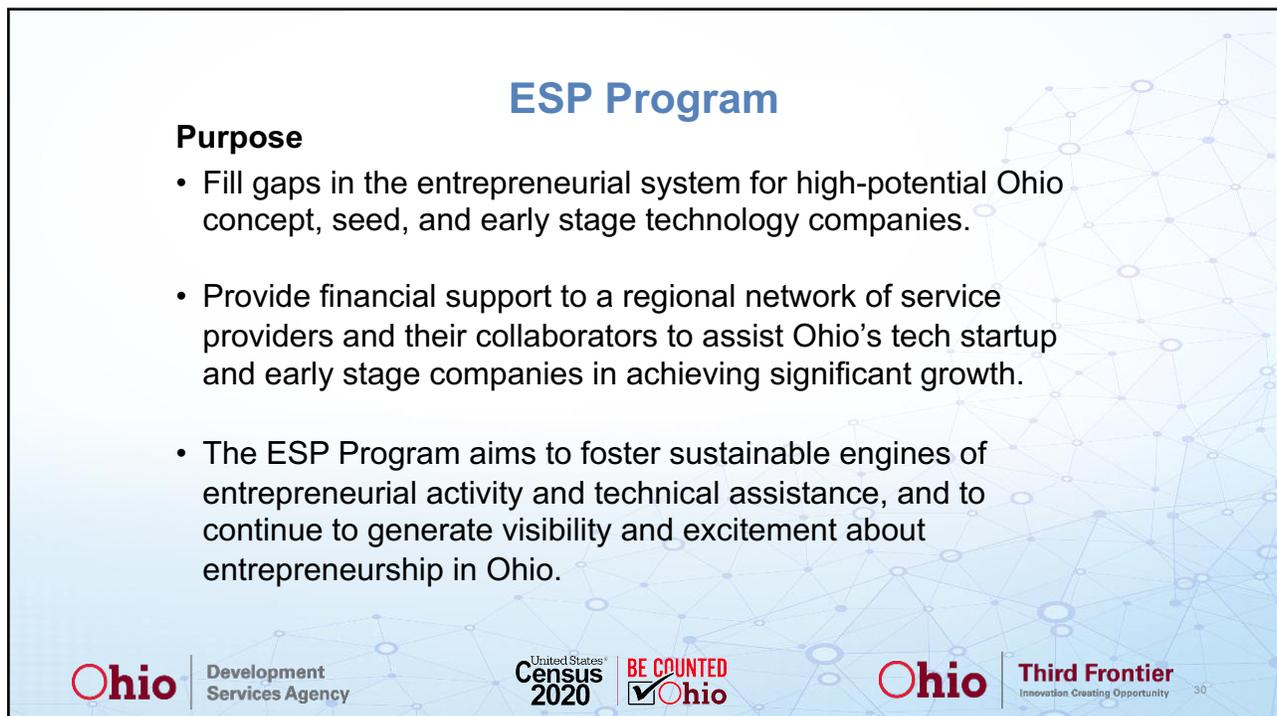
Jason Miller
Program Manager

Ohio | Development Services Agency

United States[®] Census 2020 | **BE COUNTED** ✓ **Ohio**

Ohio | **Third Frontier**
Innovation Creating Opportunity 29

29



ESP Program

Purpose

- Fill gaps in the entrepreneurial system for high-potential Ohio concept, seed, and early stage technology companies.
- Provide financial support to a regional network of service providers and their collaborators to assist Ohio’s tech startup and early stage companies in achieving significant growth.
- The ESP Program aims to foster sustainable engines of entrepreneurial activity and technical assistance, and to continue to generate visibility and excitement about entrepreneurship in Ohio.

Ohio | Development Services Agency

United States[®] Census 2020 | **BE COUNTED** ✓ **Ohio**

Ohio | **Third Frontier**
Innovation Creating Opportunity 30

30

ESP Program

- Project Period:** Jan. 1, 2020 – Dec. 31, 2022
- Funding:** Up to \$75.6 Million
- Cost Share Commitment:** 1:1 Ratio

Ohio | Development Services Agency United States Census 2020 | BE COUNTED Ohio **Ohio** | Third Frontier Innovation Creating Opportunity 31

31

Entrepreneurial Services Provider (ESP) Program

Evaluator Report

Robert Worden - Quantum Commerce, LLC

Ohio | Development Services Agency United States Census 2020 | BE COUNTED Ohio **Ohio** | Third Frontier Innovation Creating Opportunity 32

32

Overview

- Six proposals submitted
 - One new applicant
 - Five reapplied for the six regions
 - One proposal was for two regions
 - One proposal was for partial Central region
- Five Recommended for Funding
- Total grant dollars recommended is \$75,500,000

QUANTUM COMMERCE, LLC 33

33

General ESP Ecosystem Observations

- The ESPs have positively changed Ohio's entrepreneurial culture
- No major gaps that preclude support for extant providers
- The major gap is operational excellence mindset

QUANTUM COMMERCE, LLC 34

34

Lead Applicant	Title	State Funds Requested	Total Budget	Recommend
CincyTech, LLC	Southwest Ohio Entrepreneurial Services Provider Program	\$15,075,000	\$30,150,000	\$13,500,000
JumpStart Inc. (NEO)	The NEO/NWO Entrepreneurial Services Provider Program	\$28,014,517	\$56,029,032	\$26,500,000
JumpStart Inc. (NWO)	The NEO/NWO Entrepreneurial Services Provider Program	\$5,687,619	\$11,375,236	\$5,650,000
The Entrepreneurs Center, Inc.	TEC: Leading the West Central Ohio ESP	\$19,734,571	\$39,489,654	\$10,800,000
Ohio University	TechGROWTH Ohio Services VI	\$5,072,810	\$10,144,740	\$5,050,000
Rev1 Ventures, Inc.	Central Ohio Region ESP 2020 - 2022	\$15,060,000	\$30,120,000	\$14,000,000
Ikove Entrepreneurship Center, Inc	Central Ohio Entrepreneurial Services Provider Program	\$7,248,260	\$15,620,978	\$0
Totals		\$95,892,776		\$75,500,000



35

Proposal Recommendations

CINCYTECH, LLC		<i>Southwest Ohio Entrepreneurial Services Provider Program</i> 
Amount Requested:	Recommended:	
\$15,075,000	\$13,500,000 ¹	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$13,107,497	\$15,075,000
Capital Leverage (Private + Public Capital raised/ State funds)	27.7	49.4
Average State \$\$ per job created	\$21,526	\$9,804
Jobs Leverage (Jobs/ \$100K State funds)	4.7	11.1

*2019 = Projected through end of year. Data used for tables provided by applicants.

¹ Franchise \$1MM to 2021 and another \$1MM in 2022 of the total award amount. If the ESP meets at least 90% of stated metric goals in the prior year for job creation and capital raise. (e.g. \$11.5MM/ \$1MM/ \$1MM)



36

Proposal Recommendations

JUMPSTART INC. (NEO)		<i>The NEO/NWO Entrepreneurial Services Provider Program</i>
Amount Requested:	Recommended:	
\$28,014,517	\$26,500,000	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$25,633,572	\$28,014,517
Capital Leverage (Private + Public Capital raised/ State funds)	96.8**	27.1
Average State \$\$/job created	\$17,213	\$22,025
Jobs Leverage (Jobs/ \$100K State funds)	5.8	4.6

2019 = Projected through end of year. Data used for tables provided by applicants.
 **Note: Capital leverage is substantially higher than typical due to one large event in 2017.



37

37

Proposal Recommendations

JUMPSTART INC. (NWO)		<i>The NEO/NWO Entrepreneurial Services Provider Program</i>
Amount Requested:	Recommended:	
\$5,687,619	\$5,650,000	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$3,688,998	\$5,687,618
Capital Leverage (Private + Public Capital raised/ State funds)**	N/A	5.8
Average State \$\$/job created	N/A	\$27,224
Jobs Leverage (Jobs/ \$100K State funds)	N/A	3.9

2019 = Projected through end of year. Data used for tables provided by applicants.
 ** Full data not available due to transition to JumpStart



38

38

Proposal Recommendations

THE ENTREPRENEURS CENTER, INC.		<i>TEC: Leading the West Central Ohio ESP</i>
Amount Requested:	Recommended:	
\$19,734,571	\$10,800,000	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$5,237,000	\$19,734,571
Capital Leverage (Private + Public Capital raised/ State funds)	9.5	9.0
Average State \$\$/job created	\$7,671	\$24,255
Jobs Leverage (Jobs/ \$100K State funds)	13.1	4.2

2019 = Projected through end of year. Data used for tables provided by applicants.



39

39

Proposal Recommendations

OHIO UNIVERSITY (TECHGROWTH)		<i>TechGROWTH Ohio Services VI</i>
Amount Requested:	Recommended:	
\$5,072,000	\$5,050,000	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$3,439,752	\$5,072,810
Capital Leverage (Private + Public Capital raised/ State funds)	11.5	13.8
Average State \$\$/job created	\$4,201	\$4,671
Jobs Leverage (Jobs/ \$100K State funds)	24.1	21.6

2019 = Projected through end of year. Data used for tables provided by applicants.



40

40

Proposal Recommendations

REVI VENTURES, INC.		<i>Central Ohio Region ESP 2020 - 2022</i>
Amount Requested:	Recommended:	
\$15,060,000	\$14,000,000	

Leverage	2017-2019 Actual*	2020-2022 Proposed
State ESP Funds (used/proposed)	\$12,033,131	\$15,060,000
Capital Leverage (Private + Public Capital raised/ State funds)	72.6	68.2
Average State \$\$/job created	\$18,076	\$19,872
Jobs Leverage (Jobs/ \$100K State funds)	5.9	5.0

2019 = Projected through end of year. Data used for tables provided by applicants.



41

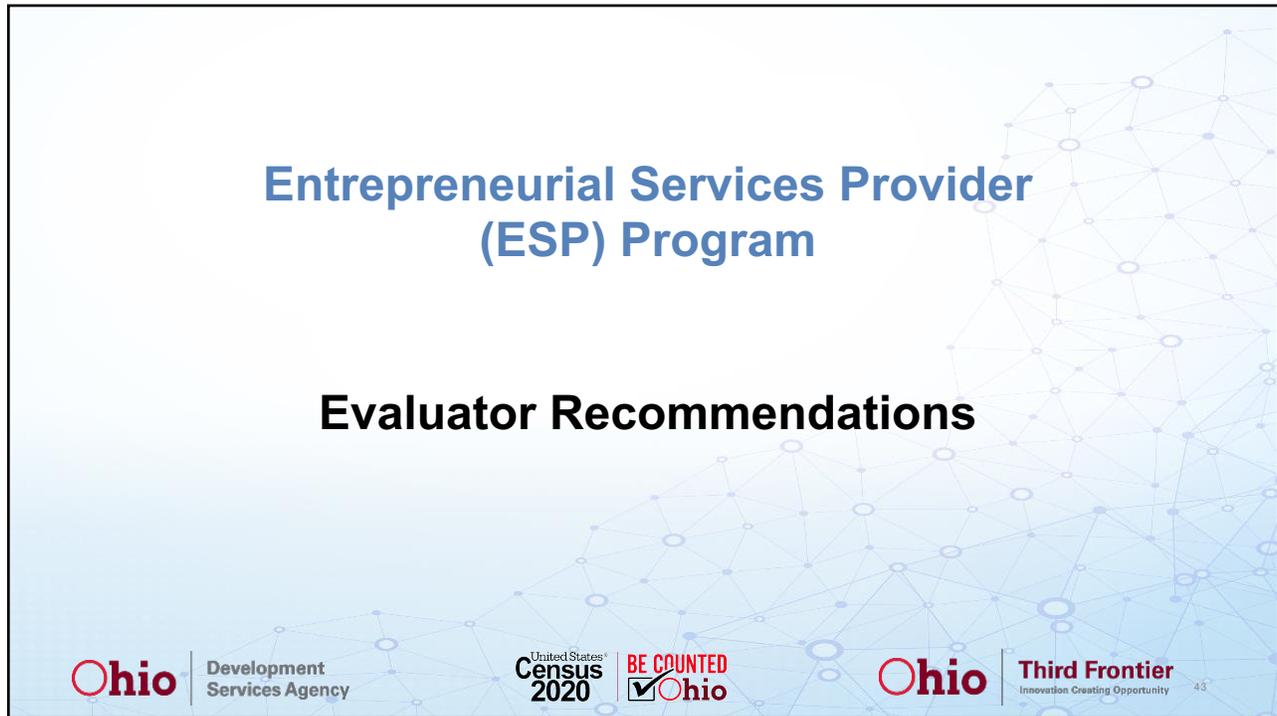
Proposal Recommendations

I KOVE ENTREPRENEURSHIP CENTER, INC		<i>Central Ohio Entrepreneurial Services Provider Program</i>
Amount Requested:	Recommended:	
\$7,248,260	\$0	

Leverage	2017-2019 Actual	2020-2022 Proposed
State ESP Funds (used/proposed)	N/A	\$7,248,260
Capital Leverage (Private + Public Capital raised/ State funds)	N/A	16.3
Average State \$\$/job created	N/A	\$11,413
Jobs Leverage (Jobs per \$100K State funds)	N/A	9.0



42



**Entrepreneurial Services Provider
(ESP) Program**

Evaluator Recommendations

Ohio | Development Services Agency

United States[®]
Census 2020

BE COUNTED
✓ **Ohio**

Ohio | **Third Frontier**
Innovation Creating Opportunity 43

43



Other Business

**Proposed next meeting:
February 26, 2020**

Adjournment

Ohio | Development Services Agency

United States[®]
Census 2020

BE COUNTED
✓ **Ohio**

Ohio | **Third Frontier**
Innovation Creating Opportunity 44

44