

Ohio Third Frontier Commission Meeting

April 18, 2023



Department of
Development



Third Frontier
Innovation Creating Opportunity

Call to Order, Roll Call, and Approval of the January 17, 2023, Meeting Minutes

Technology Validation and Start-Up Fund (TVSF)

Jeremiah Shun, Program Manager



Department of
Development



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Program Purpose

Help transition technology from Ohio research institutions into the marketplace through Ohio startup companies

Two ways to engage the program:

- Phase 1: Validation Projects (Institutional Funds)
- Phase 2: Startup Fund (New Companies)



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Phase 1: Validation Projects



- Institutions may apply to create a pool of funds to select and advance its technologies toward commercialization
- Lead applicant must be the institution that owns the IP



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Phase 1

Awards must be matched 1:1 by cash cost share from the institution for:

- \$200,000 to \$500,000
- \$1,000,000

No cost share requirement for:

- \$100,000
 - Internship required



Phase 2: Startup Fund



- Eligible Project: Ohio startups and young companies licensing and commercializing technologies from institutions
- Awards up to \$100,000 (or \$150,000 for biomedical-related projects)
- No cost share requirements



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Future Rounds:

Round 33: Only Phase 2

- Application Opens: April 21
- Awards: Approximately July 2023

Round 34: Phase 1 & 2

- Application Opens: July 21
- Awards: Approximately October 2023



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Technology Validation and Start-Up Fund (TVSF) Round 32 Evaluator Recommendation

Redwood Innovation Partners



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Redwood
Innovation
Partners



TVSF Round 32 Evaluation

Herb Bresler, PhD, Jim Sonnett PhD, Susan Stanton PhD

April 18, 2023

Outline

- Round 32 overview
- Funding Recommendations
- Analysis and Recommendations
- Phase 1 Revised Round 30 Review

Round 32 Overview

- 11 Applications Totaling \$1,350,000 were reviewed.
- Funding of 1 Phase 1 Option 3 application totaling \$100,000 is recommended.
- Funding of 6 Phase 2 applications totaling \$750,000 is recommended.

Round 32 Overview (Continued):

- Round 32 approval rate is 64%: 1 of 1 Phase 1 applications; 6 of 10 Phase 2 applications.
 - Historical range of prior rounds is 27 to 100%

**TVSF Round 32
Approval Rate by Round
Phase 1/Phase 2**

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%

Round	\$ Recommended	Approval Rate
20 (NOV 2019)	\$1,350,000	43%
21 (FEB 2020)	\$3,944,000	56%
22 (JUN 2020)	\$1,398,630	53%
23 (DEC 2020)	\$900,000	50%
24 (MAR 2021)	\$2,092,900	55%
25 (JUN 2021)	\$800,000	75%
26 (OCT 2021)	\$1,700,000	55%
27 (FEB 2022)	\$850,000	43%
28 (APR 2022)	\$2,499,976	64%
29 (JULY 2022)	\$850,000	100%
30 (OCT 2022)	\$3,700,000	71%
31 (JAN 2023)	\$100,000	50%
32 (APR 2023)	\$850,000	64%
Total Funding	\$46,795,707	
Average/Round	\$1,462,366	49%



Phase 1 Recommended Funding



Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding
23-4226	University of Akron Research Foundation	University of Akron Research Foundation Spark Fund	\$100,000

Comments:

- Competent seven-person selection committee
- Good track record of obtaining results from projects with limited funding
- Clear, well-developed selection process



Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4229	Enspire DBS Therapy, Inc	DBS for Stroke Program Optimization System	\$150,000	Cleveland Clinic Foundation

- Enspire's therapy is focused on optimizing the delivery of Deep Brain Stimulation (DBS) to the Dentate Nucleus (DN) of the cerebellum in order to improve arm function in patients with chronic deficits due to stroke.
- This proposal is to construct and demonstrate a companion device to optimize the DBS treatment conditions.

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4230	HydroSmart LLC.	Innovative Fluid Consumption Measurement and Reporting Solution(HydroSmart)	\$100,000	US Army

- HydroSmart, LLC plans to develop accurate, effective, automated and user-friendly measurement of fluid intake via a wearable sensor system.

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4231	Mobius Care, Inc.	Small Molecule IBD Therapeutics	\$150,000	Cleveland Clinic Foundation

- Mobius Care, Inc. was formed to develop treatments for inflammatory bowel disease (IBD), targeting three intertwined dysfunctional wound healing and dysfunctional microbiome.

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4232	Neuright, Inc.	First in human validation of a novel medical diagnostic device for peripheral neuropathy, to support commercialization.	\$150,000	University of Maine

- Neuright is developing an initial device to diagnose peripheral neuropathy (PN). Subsequent versions of the device will be developed to treat PN.

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4235	S&J NanoChemicals, Inc.	ZincX sustainable nanofertilizers for enhanced crop growth	\$100,000	University of Dayton

- The company has developed two novel nanofertilizers that enhance growth, yield and vitality in a wide variety of crops in agricultural production through a unique and environmentally friendly application strategy.

Phase 2 Recommended Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding	Licensing Institution
23-4236	Zsense Systems, LLC	Inline Oil Condition Monitoring System	\$100,000	University of Akron Research Foundation

- Zsense Systems, LLC is developing an oil condition monitoring system to 1) monitor the early onset wear progression in real time with higher resolution than competitors and 2) predict remaining useful life of every in-line machine by accurately detecting multiple important oil properties.

Round 32 Analysis & Recommendations

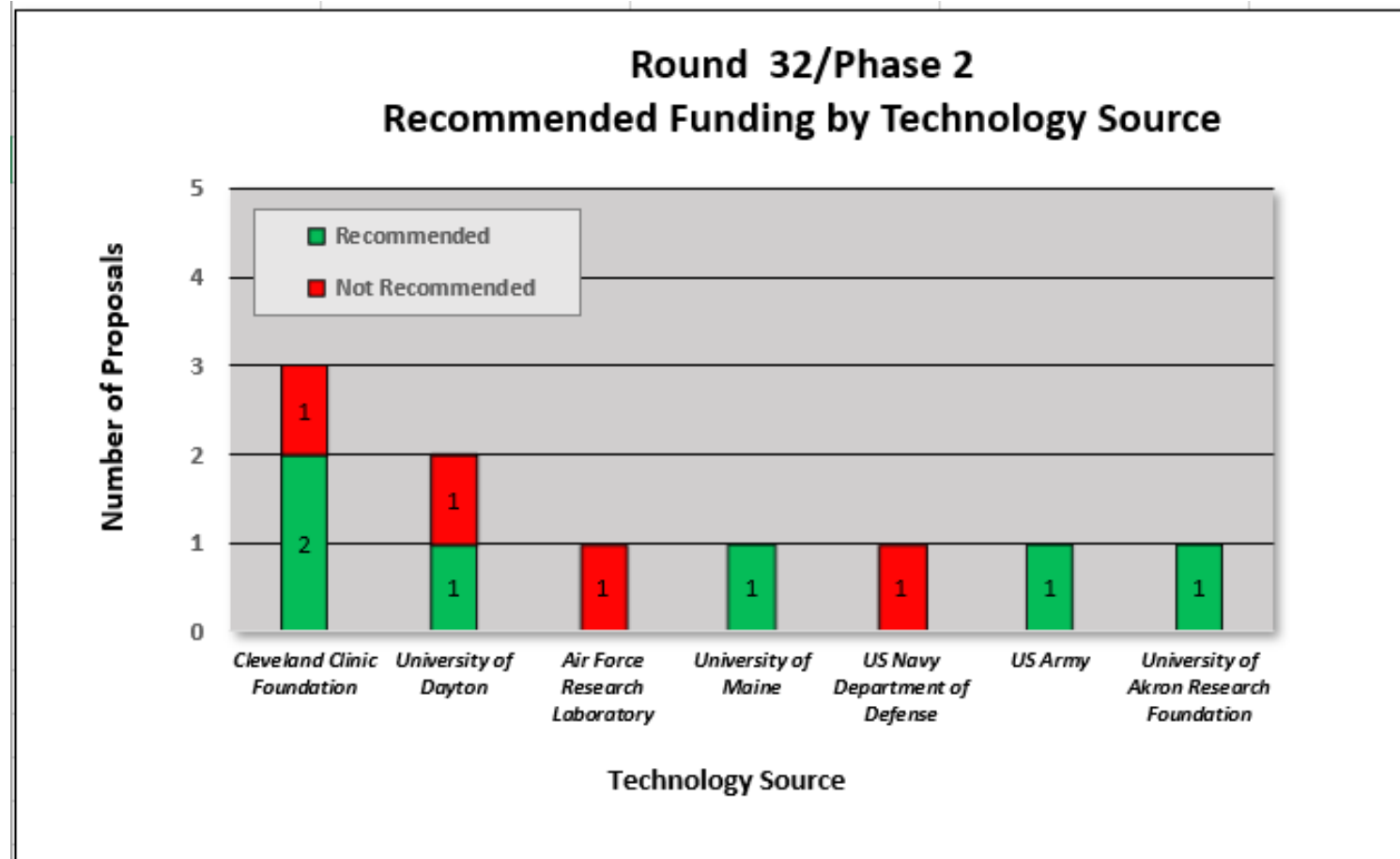


Phase 1 Carry Through and Reapplications

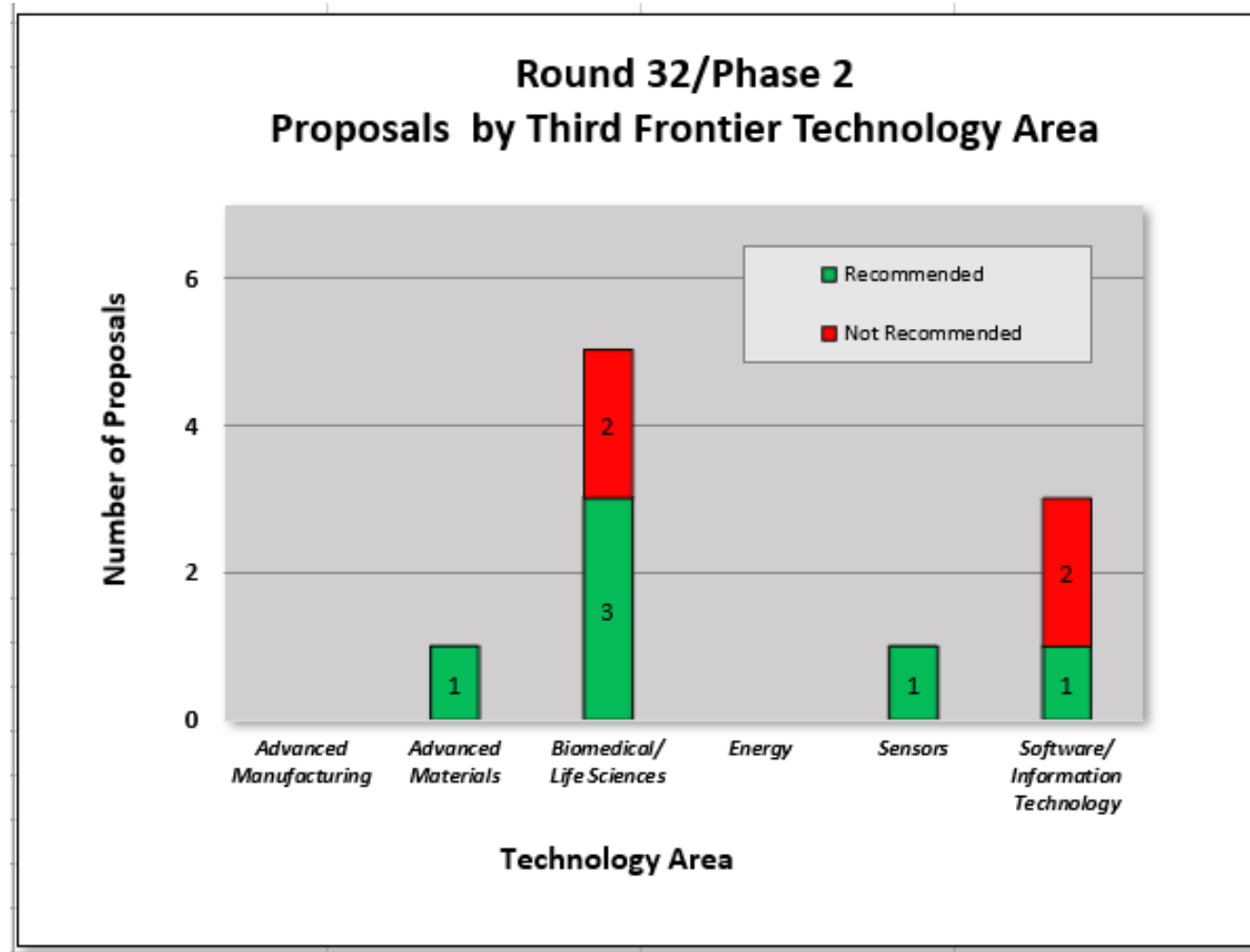
- Phase 1 Carry Through:
 - There was 1 Phase 2 applicant that previously received Phase 1 funding. It was not recommended for funding.
- Phase 2 Reapplications:
 - There were 2 reapplications in this Round. Both were first time reapplications and both were recommended for funding.



There were 3 applicants with Intellectual Property from the Cleveland Clinic Foundation

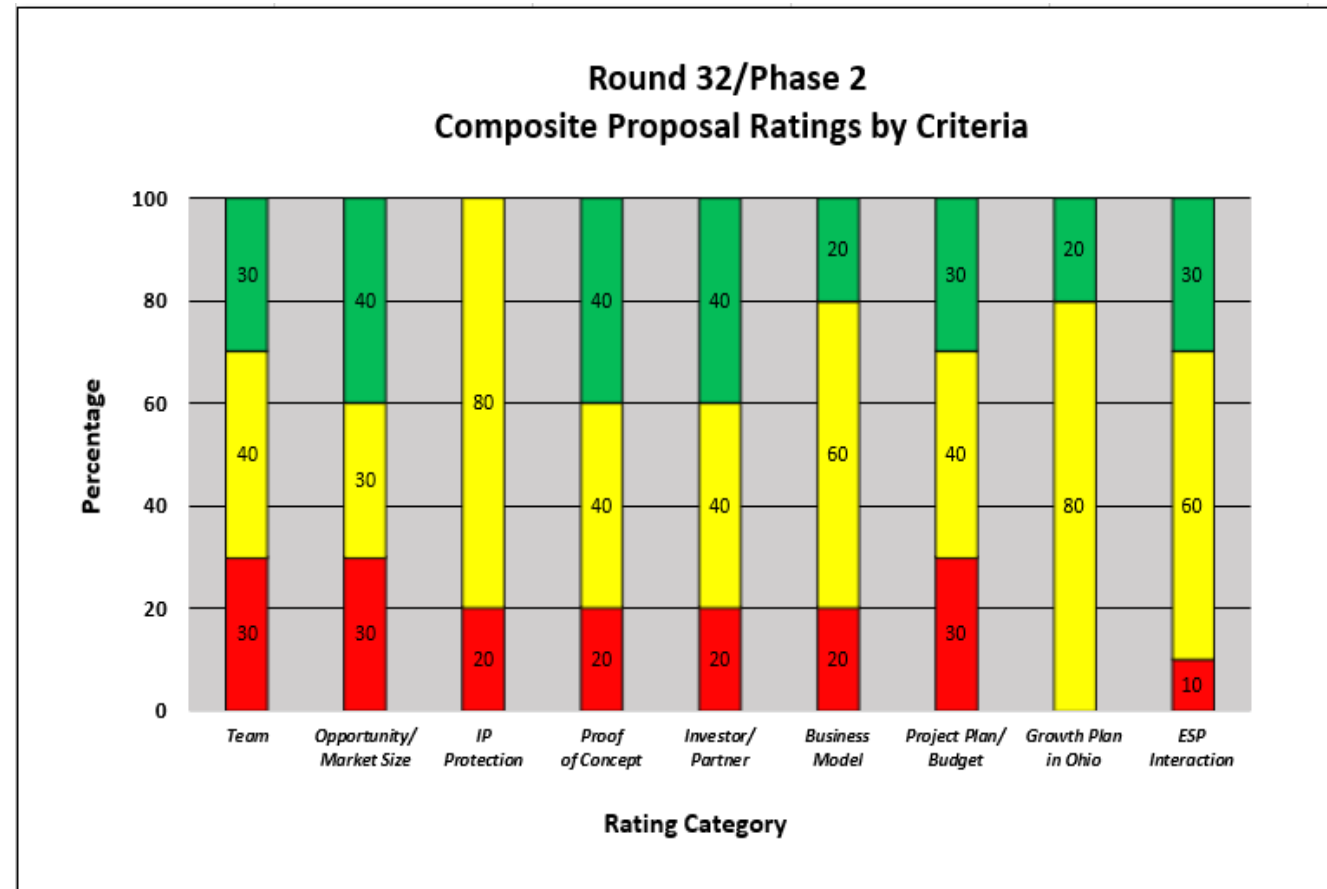


Biomedical/Life Sciences fraction is half of applicants
(50% vs Round 20 – 31 Average of 56%)



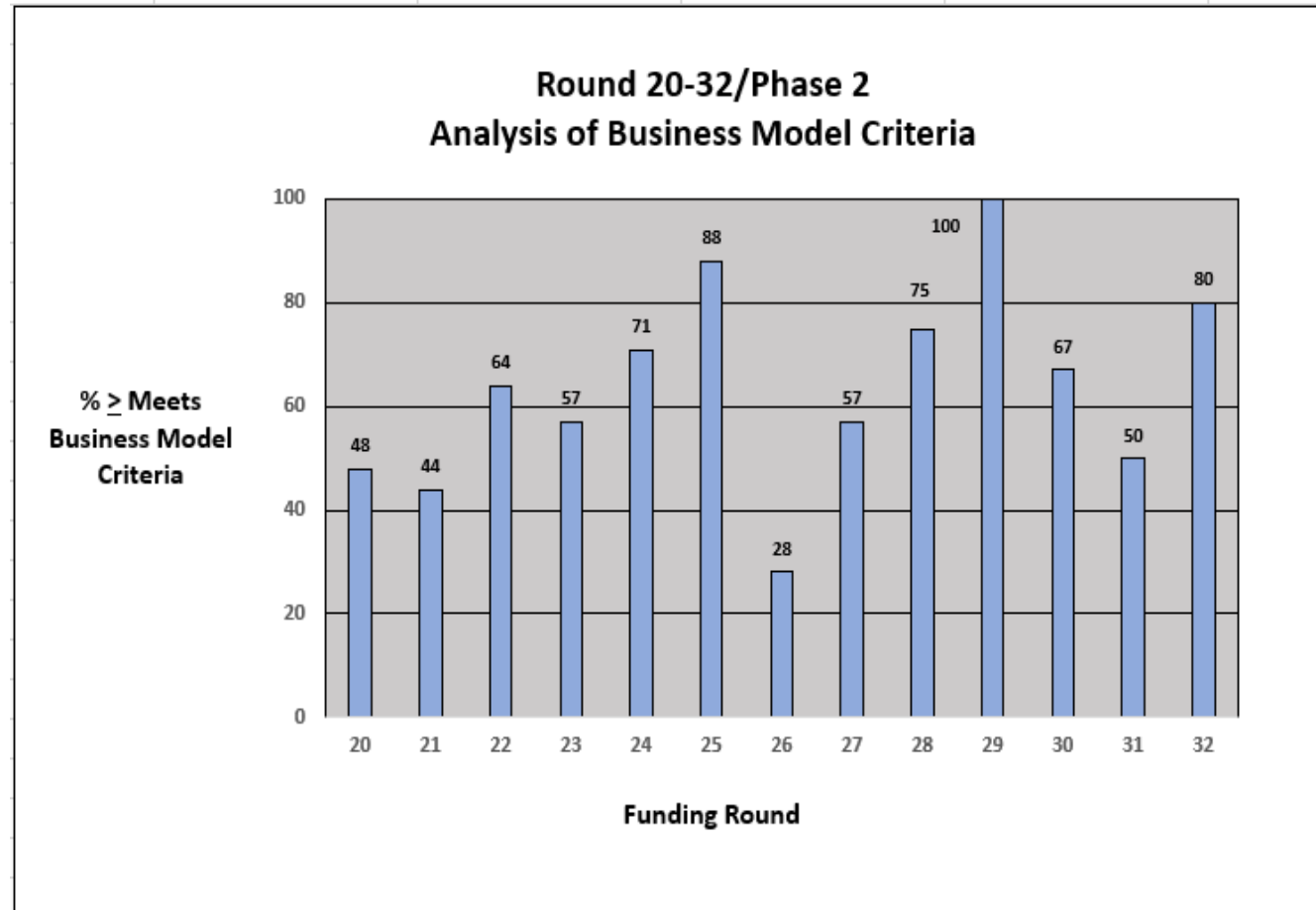
Phase 2 composite rankings show:

- IP, Proof of Concept, Potential Investor/Business Opportunity and Business Model were the highest rated criteria
- Team, Market Opportunity and Project Plan/Budget Narrative were the lowest rated criteria



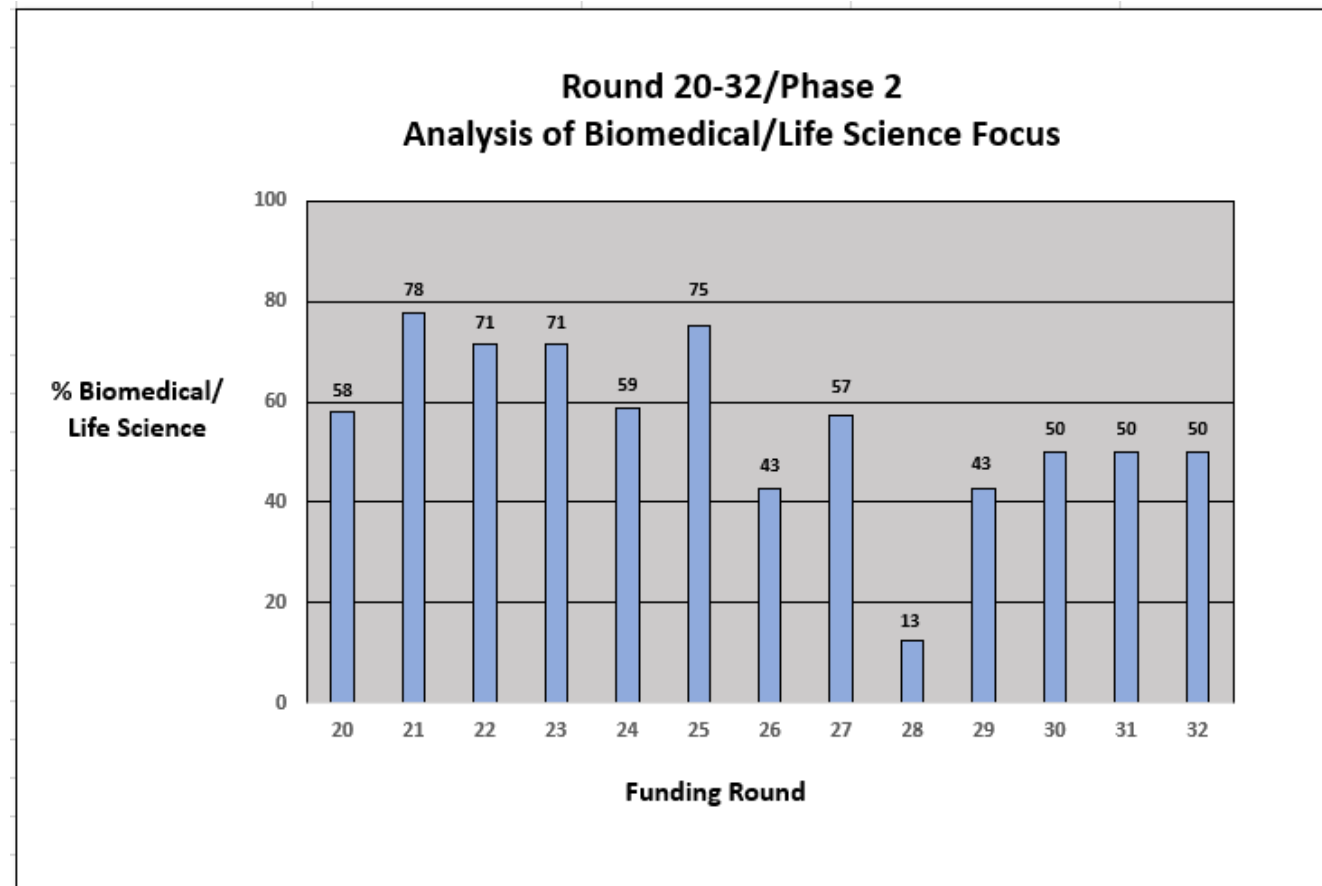
Phase 2 Business Model Analysis

- Business model average in Round 20-23 was 53% average $\geq$ meets
- Rounds 24 to 32 average was 68% average $\geq$ meets



Phase 2 Biomedical/ Life Science Focus

- Rounds 20-32 average 56% Biomedical/ Life Science
- Last 5 Rounds average was 41%



Phase 1, Option 3 Revised Round 30 Approved Funding

Proposal	Lead Applicant	Project Title / Product Focus	Recommended Funding
23-2876	Research Institute at Nationwide Children's Hospital	TVSF Phase 1 Round 32 Proposal	\$100,000

Comments:

- Changed from Approved Round 30, \$100,000 Phase 1 Option 3 with Intern component to \$200,000 Phase 1 Option 1 with no Intern component and a matching \$200,000 commitment from NCH
- Competent four-person selection committee
- Consistent deal flow within NCH
- Strong track record of licensing and commercializing technologies
- Well documented selection process

Technology Validation and Start-Up Fund (TVSF) Summary: Round 32 Phase 1

Proposal	Lead Applicant	Recommended Funding
FY23-4226	University of Akron Research Foundation	\$100,000

Technology Validation and Start-Up Fund (TVSF)

Summary: Round 32 Phase 2

Proposal	Lead Applicant	Project Title/Product Focus	Recommended Funding	Licensing Institution
23-4229	Enspire DBS Therapy, Inc	DBS for Stroke Program Optimization System	\$150,000	Cleveland Clinic Foundation
23-4230	HydroSmart, LLC	Innovative Fluid Consumption Measurement and Reporting Solution	\$100,000	US Army
23-4231	Mobius Care, Inc.	Small Molecule IBD Therapeutics	\$150,000	Cleveland Clinic Foundation
23-4232	Neuright, Inc.	First in human validation of medical diagnostic device for Peripheral Neuropathy	\$150,000	University of Maine
23-4235	S&J NanoChemicals, Inc.	ZincX sustainable nanofertilizers for enhanced crop growth	\$100,000	University of Dayton
23-4236	Zsense, LLC	Inline Oil Condition Monitoring System	\$100,000	University of Akron Research Foundation

Technology Validation and Start-Up Fund (TVSF)
Summary: Revised Round 30 Approved for \$100,000
Phase 1 Option 3 to \$200,000 Phase 1 Option 1

Proposal	Lead Applicant	Previously Approved Funding	Additional Recommended Funding
FY23-2876	Research Institute at Nationwide Children's Hospital	\$100,000	\$100,000

Diversity & Inclusion Technology Internship Program

Chelsy Logan, Program Manager



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Diversity & Inclusion Tech Internship Program Awardee

Form5 Prosthetics

Aaron Westbrook
Founder & CEO



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The background image shows a person's arm and hand working on a prosthetic device. The person is wearing a blue denim jacket. In the foreground, a purple and white prosthetic arm is visible, which is the Form 5 prosthetic. The text 'FORM 5' is written in large white letters, with a green icon of a hand with five fingers spread to the right of the word 'FORM'. Below 'FORM 5' is the word 'PROSTHETICS' in white. At the bottom is the website address 'www.form5prostheticsinc.org' in white.

FORM 5

PROSTHETICS

www.form5prostheticsinc.org

TEAM



Aaron Westbrook
Founder & CEO



Jim Brosnahan
Board Chair (American Electric Power)



Kay Young
Treasurer (Brady Ware)



Libin Babu
Secretary (Rivian)



Karl Koon
Development Chair (The Ohio State University)



Raymond Wurapa, MD
Board Member (Orthopedic One)



Jennifer Horvath
Board Member (Design Group)



Jay Perkins
Board Member (Design Central)



Susan Montgomery
Board Member



Lindsey Austin
Innovation & Technology Chair (Honda R&D)



Steve Votaw
Board Member



Laura Cohen, PhD
Board Member (Rehabilitation & Technology Consultants)



Jackie Ogden
Board Member (HR Consulting LLC)

FORM 
PROSTHETICS

A photograph of two women working on a prosthetic arm. The woman on the left, with glasses and a red plaid shirt, is looking down at the arm. The woman on the right, also with glasses and a red shirt, is holding the arm. The arm is purple and white. The background is a blurred indoor setting with green plants and a window.

MISSION

Empowering people to successfully
interact with their world and their future

FORM 
PROSTHETICS

A photograph of two children sitting on a light-colored floor, playing with colorful blocks. On the left, a girl with long blonde hair, wearing a dark blue long-sleeved shirt and dark pants, is sitting cross-legged. On the right, a young girl with dark curly hair, wearing a blue jacket with 'VOLE' on it, a pink shirt, and a purple face mask, is sitting cross-legged. They are both looking at the blocks between them. In the background, there is a white wall with a grey air conditioning unit and a power outlet. The image has a semi-transparent dark overlay with text.

VISION

Individuals with limb differences have the confidence, resources, and support to accomplish anything they can imagine

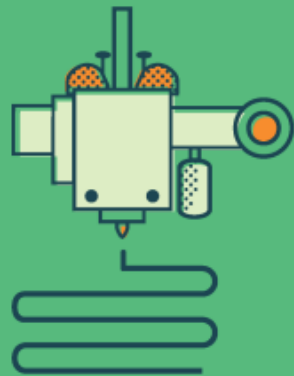
FORM 
PROSTHETICS



Our 4 Growth Pillars



Community



Research &
Development



Education



Sustainability

COMMUNITY





Meet Jariah Hendrix!

Last summer, Jariah worked as the *Development and Marketing Intern* at Form5. She is a senior at the Ohio State University majoring in Strategic Communications.

Jariah has experience with editing, creating, and developing media content. She enjoys creating content, especially for social media. One of her passions is helping others, which aligns with Form5's mission.

During her time at Form5 she developed fundraising campaigns, newsletters, and managed the organizations social media accounts. Through the D&I program, Jariah left her her mark on Form5!

RESEARCH & DEVELOPMENT



LIFESTYLE



MOBILITY



ACTIVITY



OTHER

FORM
PROSTHETICS



Meet Benjy Davis!

Benjy is a 4th year student at Bowling Green University, majoring in Engineering Technology.

He enjoyed the most was helping people, along with supporting R&D of Form5's latest device (the fingers you see to the left). Form5 is proud of Benjy for applying what he's learned in school to the real world to make a difference!

"Interning at Form5 taught me a lot of things. I learned how to write proposals, how to better implement feedback, how to work in a group—but also as an individual, and so many other things that I can't even list them all."

EDUCATION



PRE-FAB x **FORM** 
PROSTHETICS

EDUCATION



CO-FAB

x

FORM
PROSTHETICS

Questions!

THANK YOU

Diversity & Inclusion Technology Internship Program – Metric Review

Chelsy Logan, Program Manager



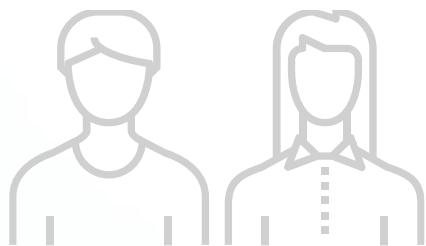
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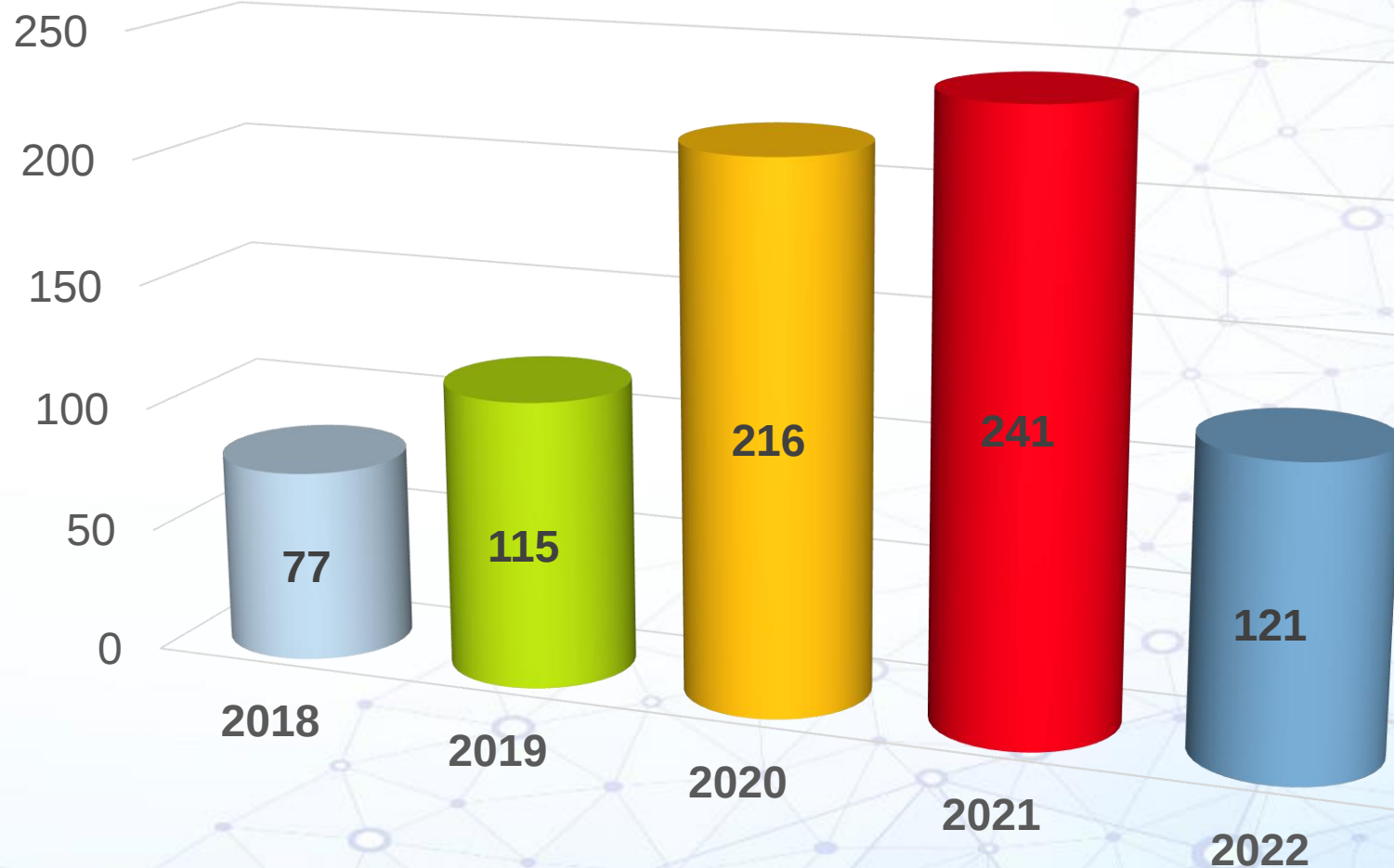
Diversity & Inclusion Technology Internship

Interns Hired by Year



770

Interns hired
over the life of
the program



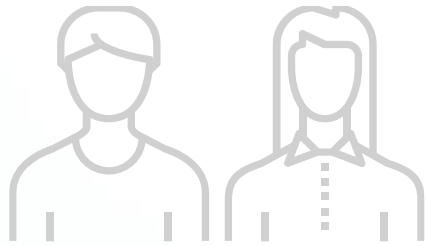
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Diversity & Inclusion Tech Internship

Intern Diversity

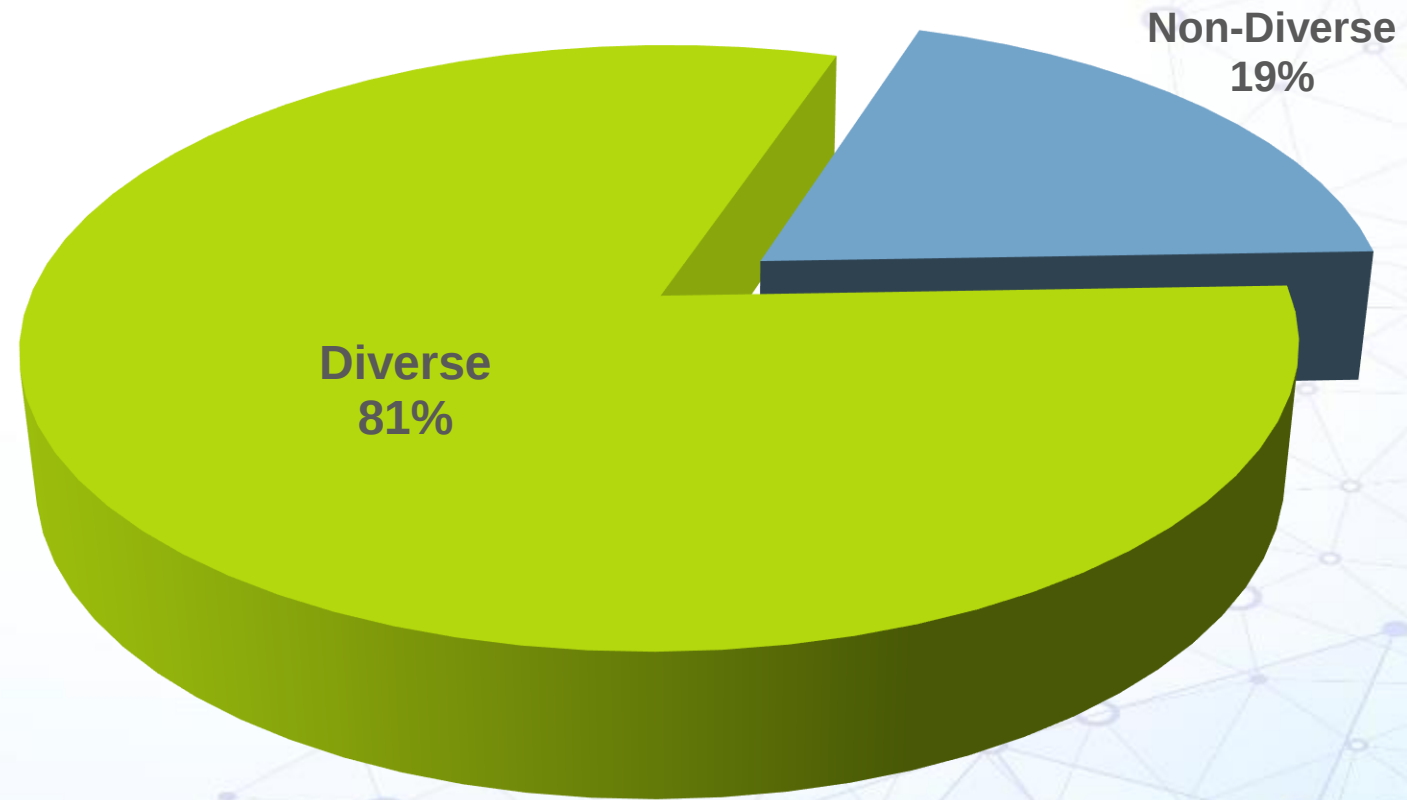


770

Interns hired

627

Diverse Interns
hired



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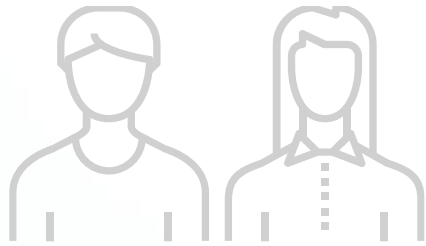
■ Diverse ■ Non-Diverse



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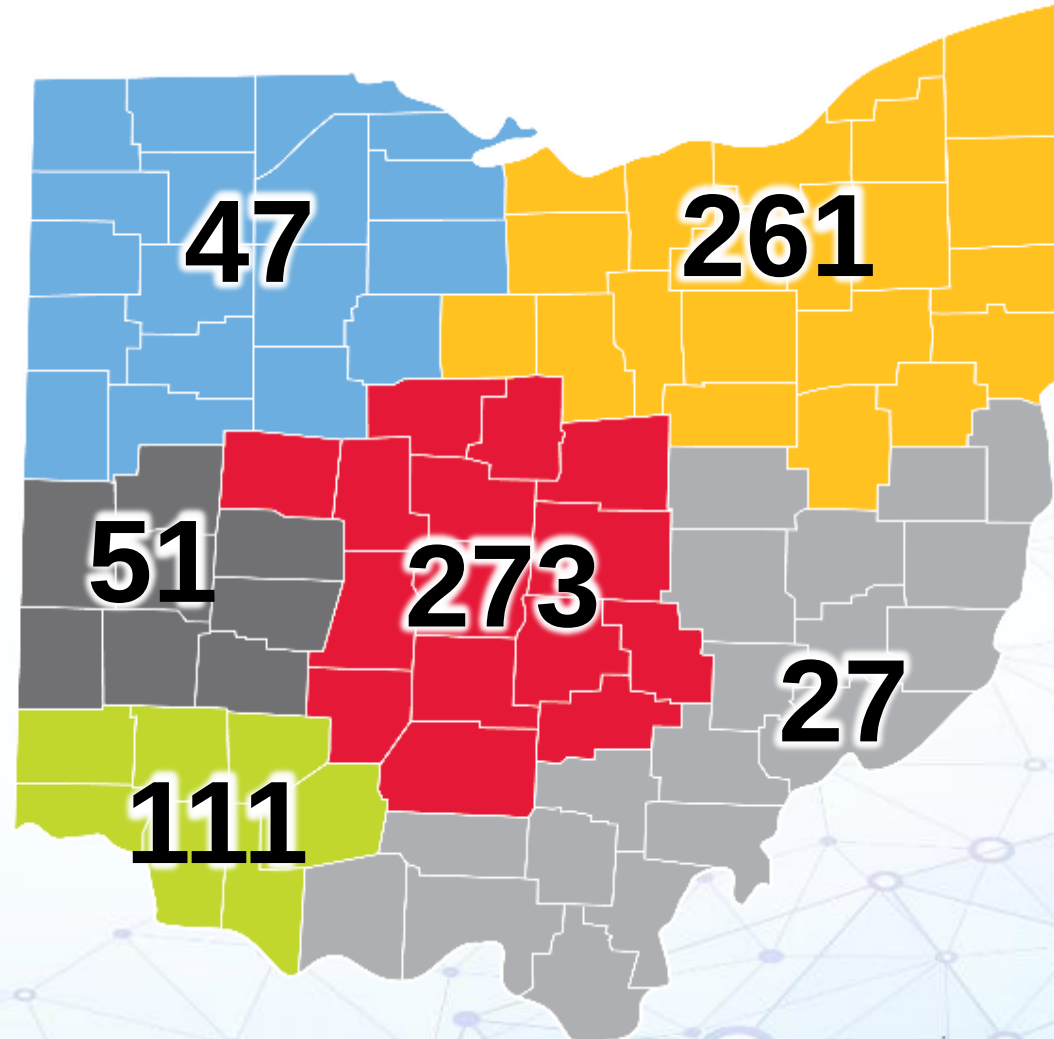
Diversity & Inclusion Tech Internship

by Region



770

Interns hired



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Diversity & Inclusion Technology Internship

Update and Request

Round 11 Update: Fall 2022 – Spring 2023

43 interns hired

95% diversity rate

Round 12: Summer 2023

Company Applications Received:
197 Companies, 425 Positions

Student Applications Received:
525 Students

Upcoming Program Enhancements

Redesign of the application and
grant agreement processes

Funding Request
\$3,000,000



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Other Business

Next Meeting

July 18, 2023



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Adjournment



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