

Ohio Third Frontier Commission Meeting

October 27, 2016



Development
Services Agency



Third Frontier
Innovation Creating Opportunity

Technology Validation and 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, other Ohio not-for-profit research institutions and federal labs located in Ohio.

Lead Applicants/Phases

- **Phase 1: Track A**
Technologies developed at Ohio research institutions needing additional validation/proof before an Ohio start-up company will license. Up to \$50,000 with 1:1 cash cost share.
- **Phase 1: Track B**
Ohio research institutions with sufficient internal deal flow to support a multitude of Phase 1: Track A type projects. Awards from \$200,000-\$500,000 with 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 (or \$150,000 if in MedTech) as initial capitalization with no cost share.
- **External Evaluator**
YourEncore

Cycles

12th Cycle of the TVSF program. To date, including this cycle:

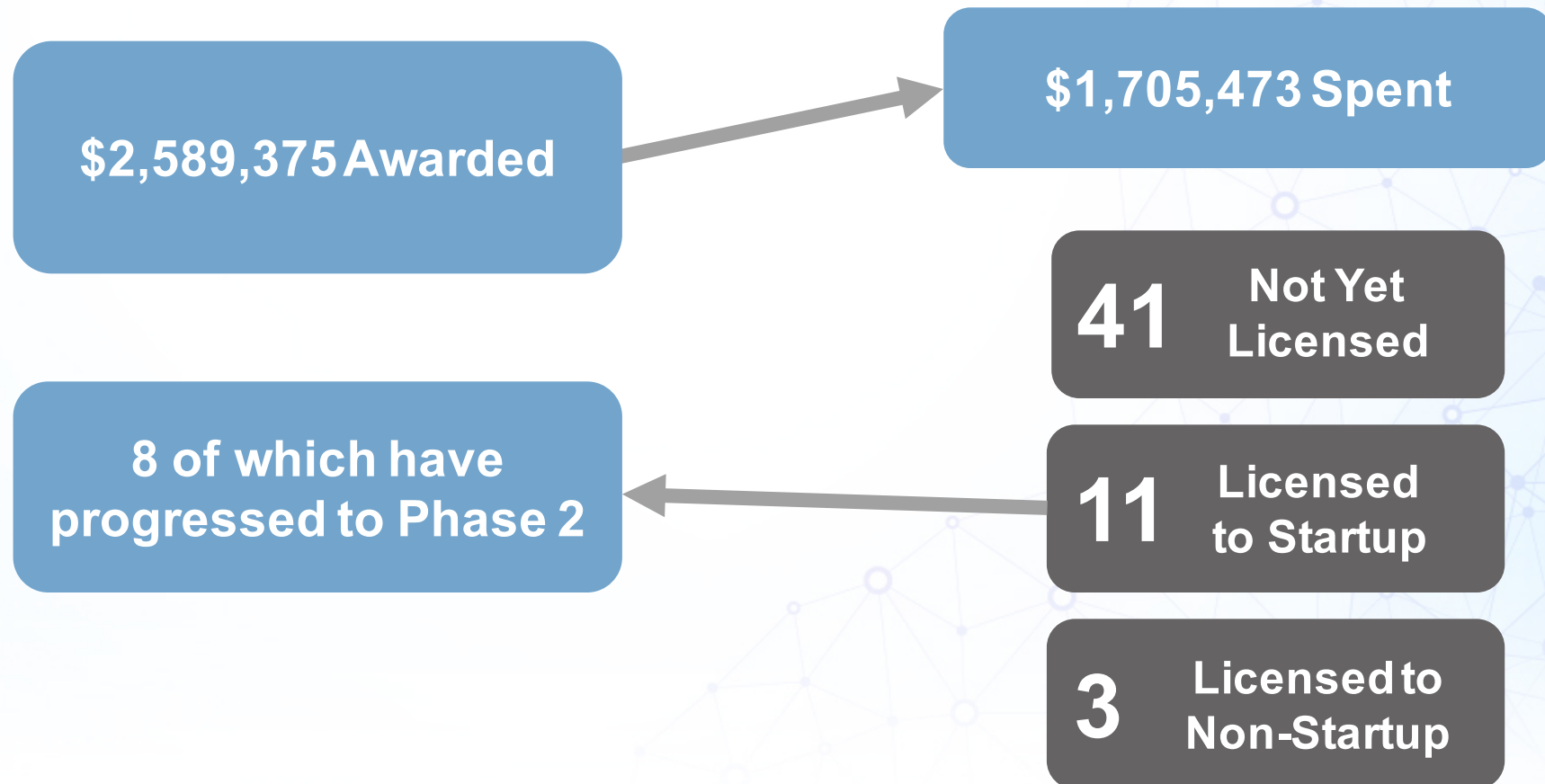
| | Proposals | Awards |
|------------------|-----------|--------|
| Phase 1: Track A | 222 | 90 |
| Phase 1: Track B | 7 | 7 |
| Phase 2 | 155 | 60 |

Current cycle

- 28 proposals with 13 recommended for award
- 4 proposals are re-submits, of which 3 are recommended

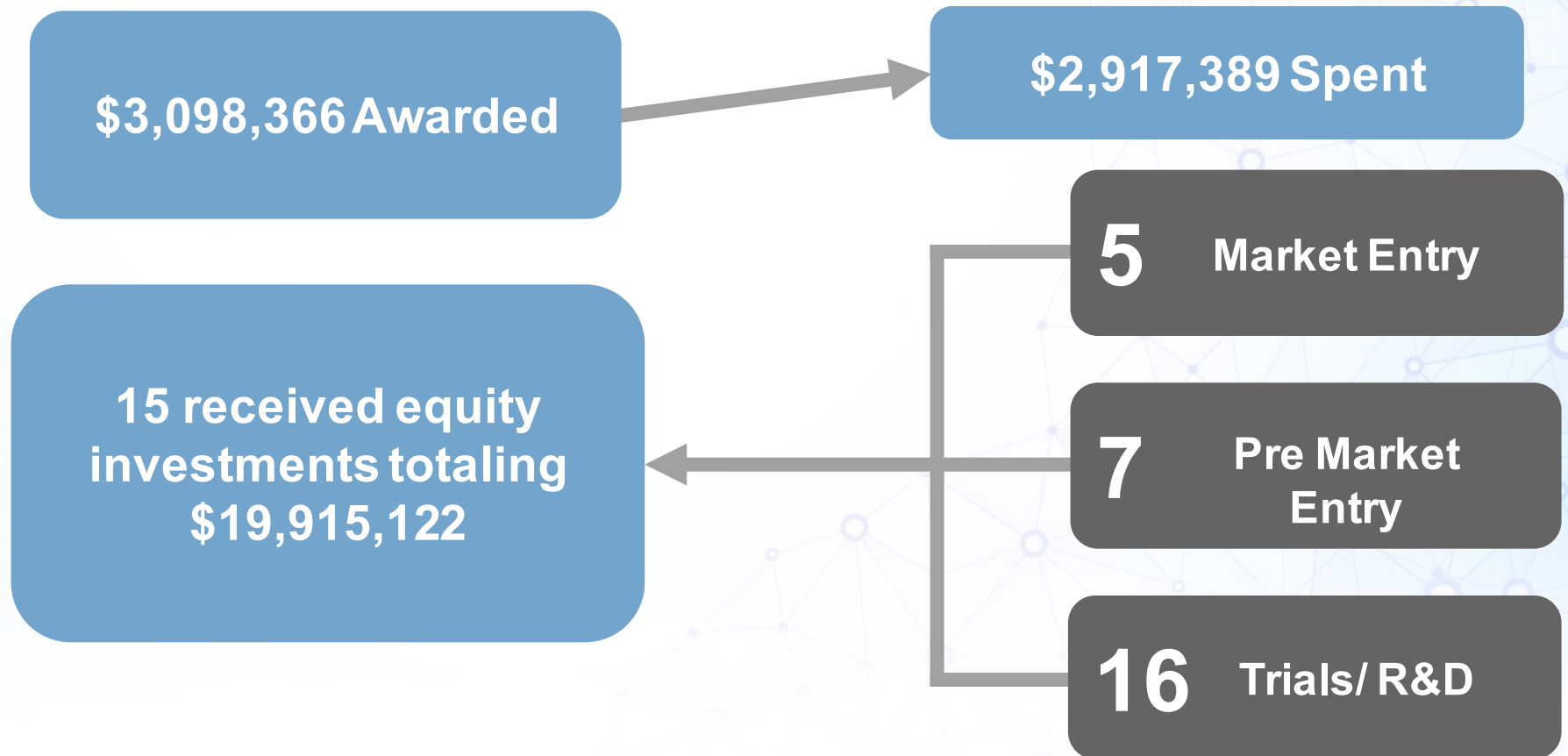
Phase 1 Progress

To date, **55** Phase 1 complete.



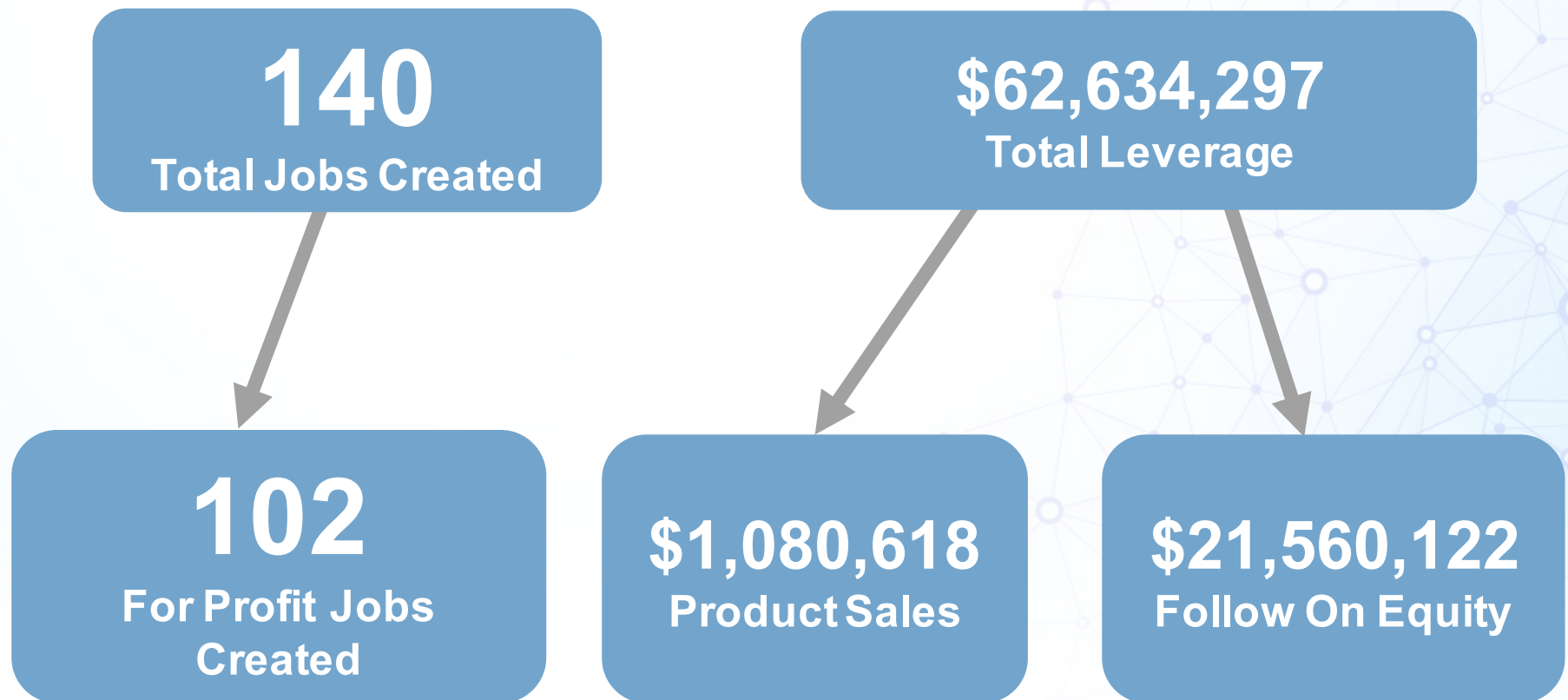
Phase 2 Progress

To date, **31** Phase 2 complete



Overall Metrics

Across the entire program – 110 Projects Reporting





Technology Validation and Start Up Fund

Round 12

Tabled from Round 11 Commission Meeting – APR 2016

| | | |
|----------------------------------|------------------------------------------|--------------------------------------------------------------------------------|
| Proposal 16-469 | University Hospitals Case Medical Center | Endo-Sleeve- Accessory Medical Device Introduction Apparatus for Endoscopes |
| Amount Requested: \$40,000 | Recommended: \$40,000 | |
| Prior Phase 1 Application(s): | 15-788 | |

| PROPOSAL # | Licensing Institution | PROJECT TITLE | Generation of Proof to be Licensed | Project Plan / Team | 3rd Party Review | Reasonable Path to Mkt | IP Protection | Start-up in Ohio | Market Opportunity / Size | Budget Narrative / Use of Funds |
|------------|--------------------------------|-------------------------------------------------------------------------------|------------------------------------|---------------------|------------------|------------------------|---------------|------------------|---------------------------|---------------------------------|
| 16-469 | University Hospitals Cleveland | Endo-Sleeve Accessory Medical Device Introduction Apparatus for Endoscopes | | | | | | | | |

- Commissioners raised concerns with respect to the review verbiage indicating insufficient identification of value proposition and competitive advantage in the proposal.
- Applicant has provided further details regarding the benefits of the technology
 - *Expands the efficacy of endoscopic utilization from a single channel to three*
 - *Allows a surgeon to utilize both hands and/or additional tools through one surgical opening*
 - *Approximates the functionality of laparoscopic or open surgical techniques, not demonstrated by competitive devices*
- Explained that no equivalent device exists
- Have forecast market share and business model details to indicate that the competitive advantage will be maintained for some time into the future, even should potential competitors endeavor to enter the market
 - *Capture of Addressable Market of 37% and \$152MM Revenue by year five*

Overview

- 13 of 28 of grants submitted this round are recommended for approval. Total grant dollars recommended is \$3,537,269.

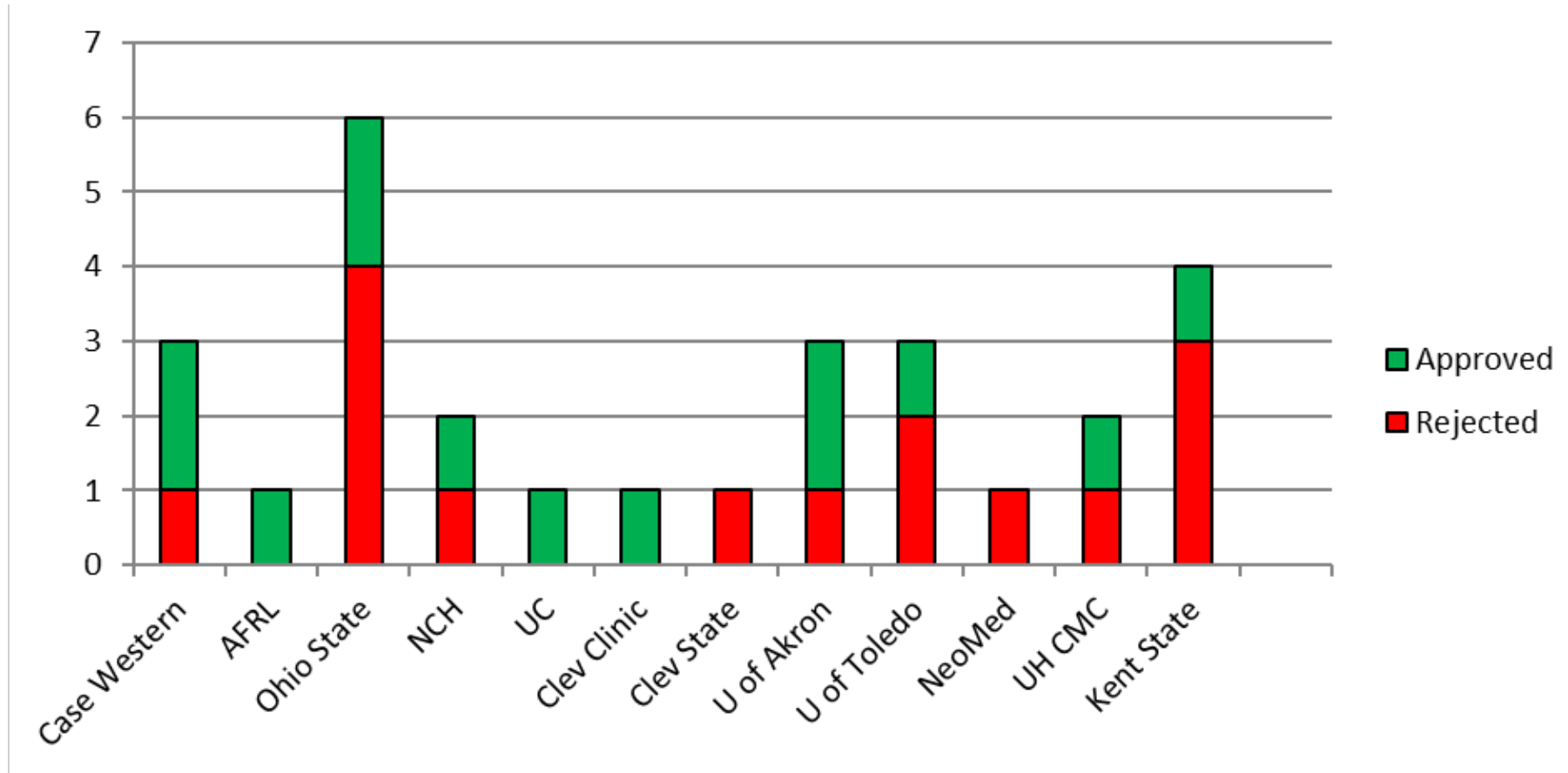
| Round | Approval Rate | \$\$ Recommended | |
|---------|---------------|------------------|----|
| 1 | 35% | \$950,000 | |
| 2 | 52% | \$900,000 | |
| 3 | 44% | \$610,000 | |
| 4 | 30% | \$864,000 | |
| 5 | 46% | \$1,462,000 | * |
| 6 | 39% | \$998,000 | |
| 7 | 57% | \$1,100,000 | |
| 8 | 37% | \$710,000 | |
| 9 | 31% | \$550,000 | |
| 10 | 38% | \$925,000 | |
| 11 | 46% | \$1,239,000 | |
| 12 | 46% | \$3,537,269 | ** |
| | | | |
| Overall | 42% | \$13,845,269 | |
| Average | | \$1,153,772 | |

*Note 1: \$100K conditional award for 13-541 in round 5 was superseded by 14-524 in round 7 for the same amount.

**Note 2: Large \$\$ Recommended reflects new Phase 1; Track B option.

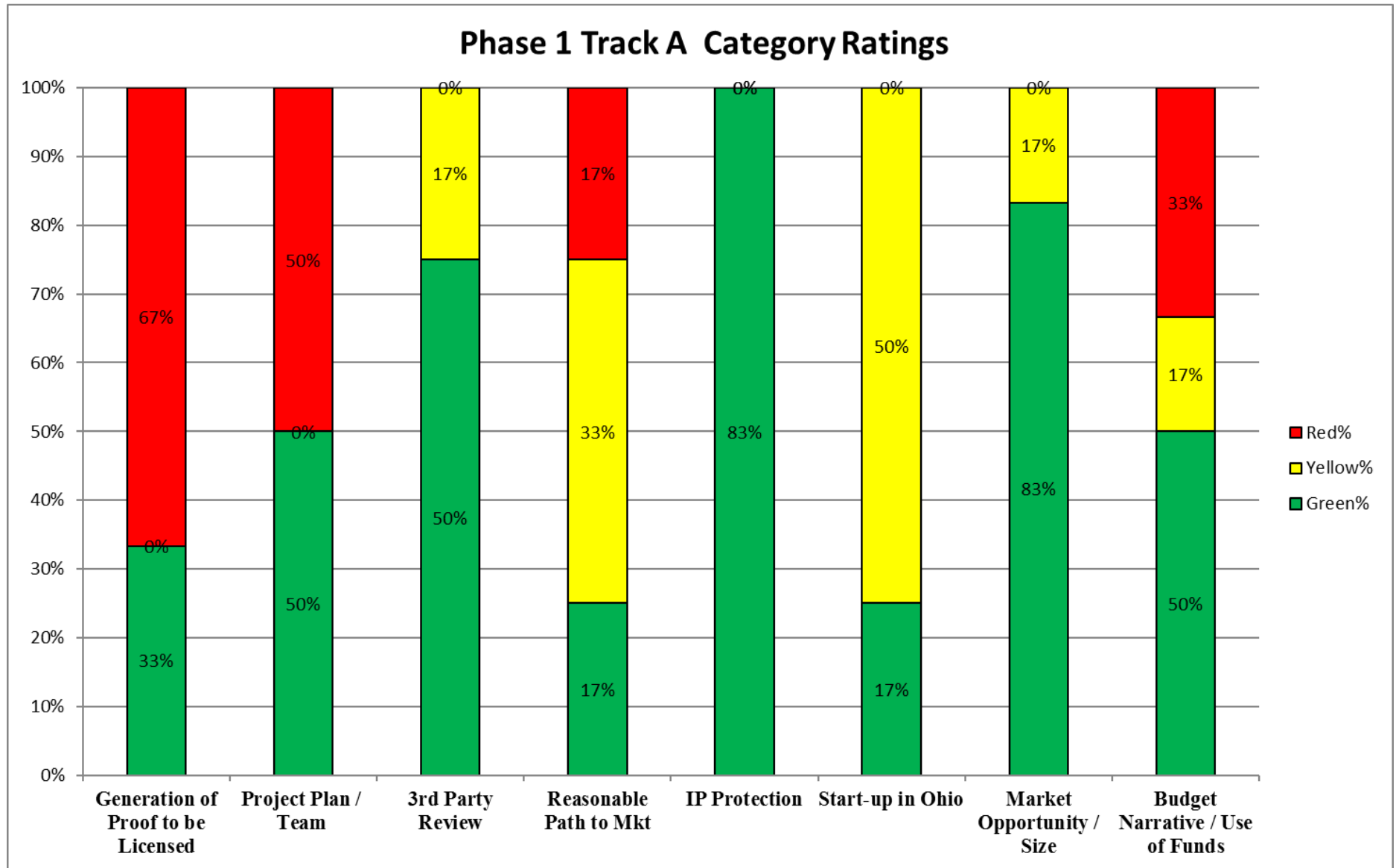
Overview

■ Round 12 Results: Applications by Institution



Trends

Round 12



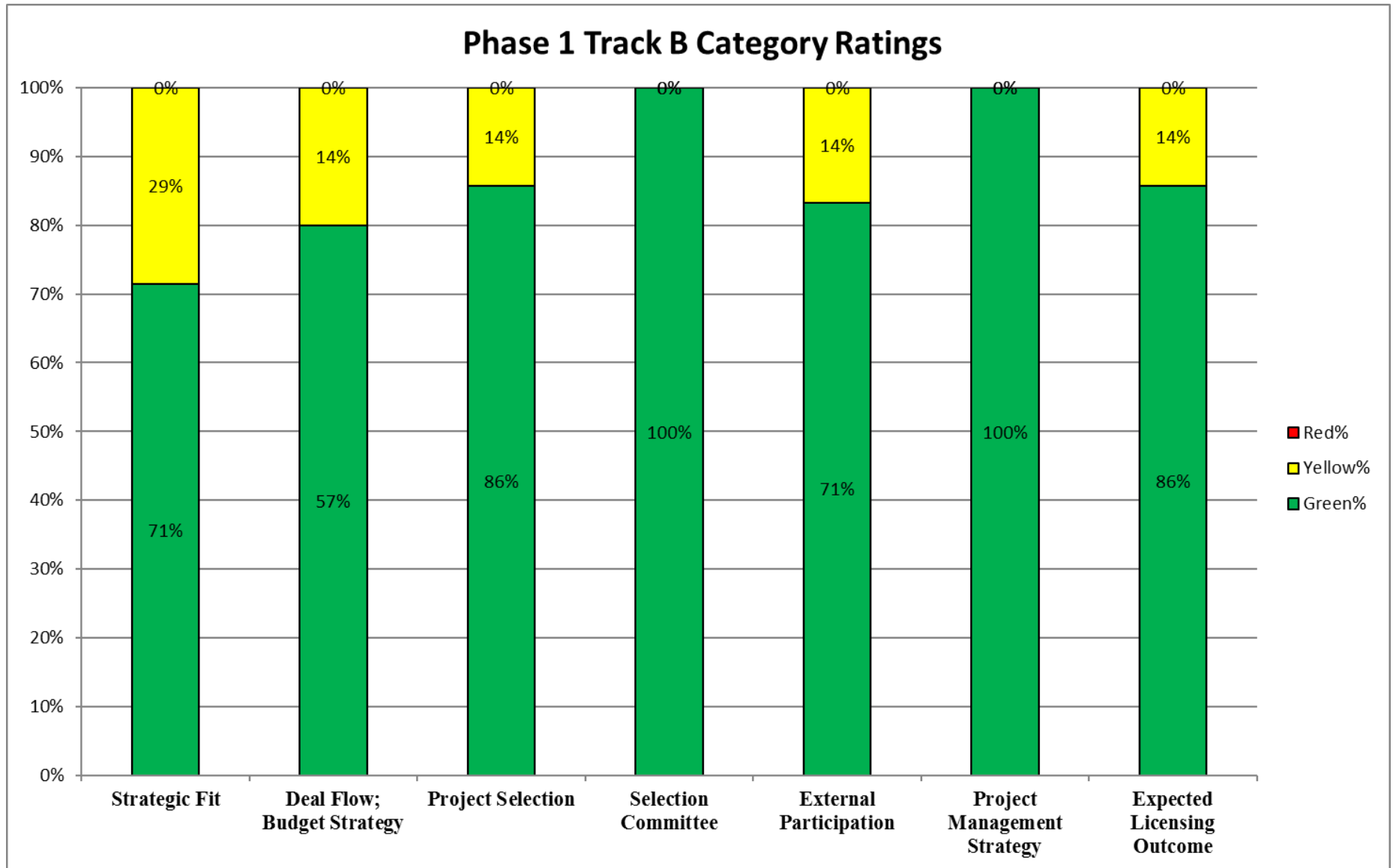
Phase 1:A Proposals Recommended for Funding

Round 12

| Proposal # | Lead Applicant | Title | State Funds Requested | Total Budget | Recommend |
|------------|----------------------|-----------------------------------------------------|-----------------------|--------------|-----------|
| 17-0061 | Kent State | Universal Tubular Solid Oxide Fuel Cell Testing Kit | \$37,269 | \$74,538 | \$37,269 |
| 17-0063 | University of Toledo | New Anthelmintic Drugs for Veterinary Medicine | \$50,000 | \$100,000 | \$50,000 |

Trends

Round 12



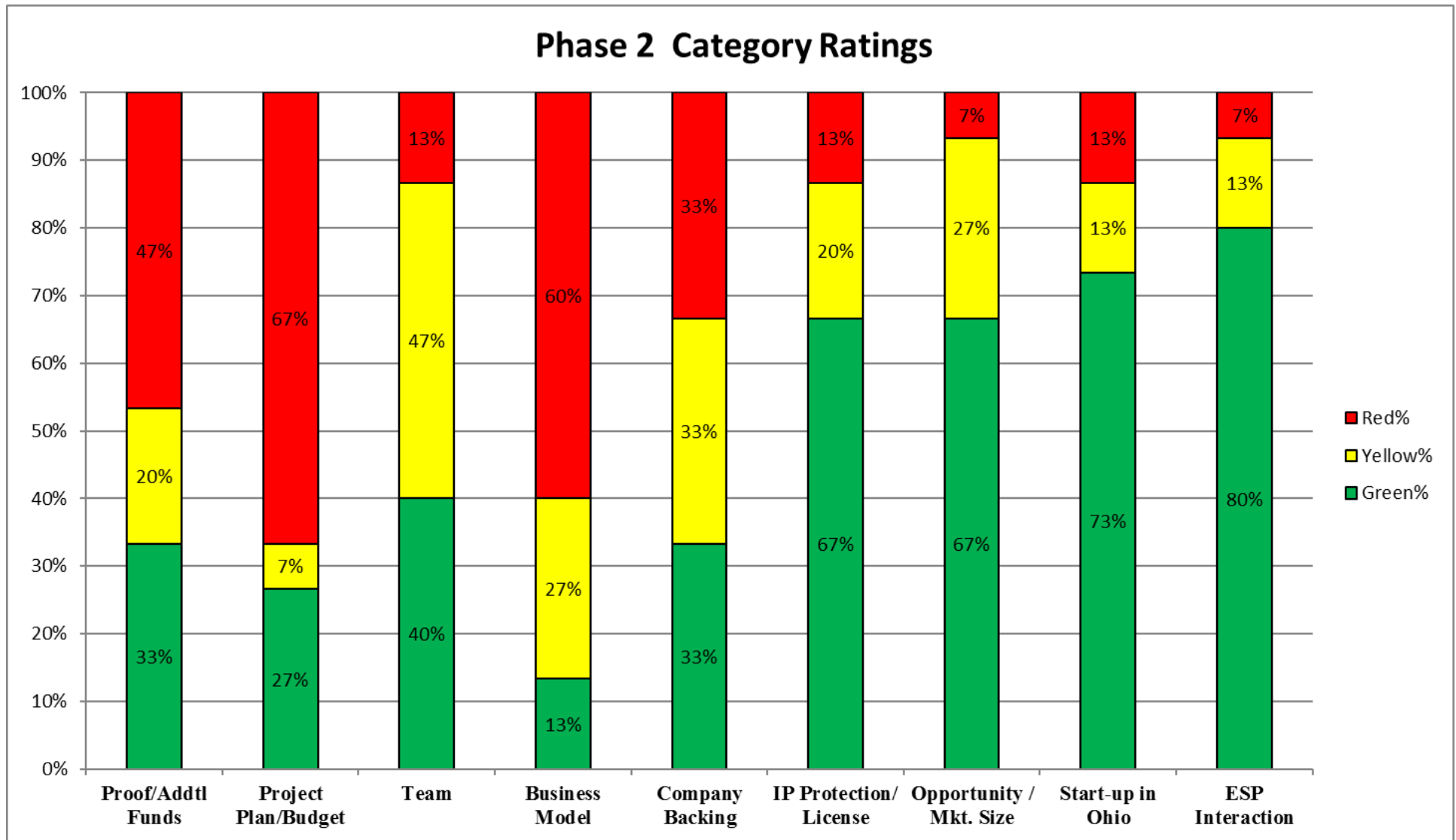
Phase 1:B Proposals Recommended for Funding

Round 12

| Proposal # | Lead Applicant | Title | State Funds Requested | Total Budget | Recommend |
|------------|----------------------------------------------------------|-----------------------------------------------------------------------|-----------------------|--------------|-----------|
| 17-0065 | University of Akron Research Foundation | Spark Fund -UARF's Technology Acceleration and Commercialization Fund | \$250,000 | \$500,000 | \$250,000 |
| 17-0066 | The Cleveland Clinic Foundation | Technology Validation and Start-up Fund Cleveland Clinic (TVSF-CC) | \$500,000 | \$1,000,000 | \$500,000 |
| 17-0067 | Case Western Reserve University | Case Western Reserve University TVSF Phase 1 Track B | \$500,000 | \$1,000,000 | \$500,000 |
| 17-0068 | The Research Institute at Nationwide Children's Hospital | Nationwide Children's Hospital TVSF Phase 1, Track B Fund | \$200,000 | \$400,000 | \$200,000 |
| 17-0069 | Ohio State University | Accelerator Award | \$500,000 | \$1,000,000 | \$500,000 |
| 17-0070 | University of Cincinnati | University of Cincinnati TVSF Phase 1 Fund | \$500,000 | \$1,000,000 | \$500,000 |
| 17-0071 | University Hospitals Health System | University Hospitals Technology Venture Fund | \$500,000 | \$1,000,000 | \$500,000 |

Trends

Round 12



Phase 2 Proposals Recommended for Funding

Round 12

| PROPOSAL # | Licensing Institution | Lead Applicant | PROJECT TITLE | State Funds Requested | Total Project Budget | Recommended | Capital Raised to Date | Time to Market | Additional Capital to Market |
|------------|---------------------------------|-------------------------|-------------------------------------------------------------------------|-----------------------|----------------------|-------------|------------------------|----------------|------------------------------|
| 17-0077 | Air Force Research Laboratory | GlobalFlyte, Inc. | GlobalFlyte: Advanced Situational Awareness Suite of Cloud Services for | \$100,000 | \$100,000 | \$100,000 | \$3,600,000 | 15 mo | \$300,000 |
| 17-0078 | Case Western Reserve University | ICBM Medical, Inc. | A Superior Low Cost Screening Device for Prostate Cancer | \$150,000 | \$150,000 | \$150,000 | \$500,000 | 15 mo | \$10MM |
| 17-0081 | The Ohio State University | Med-Compliance IQ, LLC | WoundWise - Biomedical Technology Solution for Wound Care | \$150,000 | \$150,000 | \$150,000 | \$150,000 | 6 mo | \$0 |
| 17-0082 | University of Akron | Smart 3D Solutions, LLC | Innovative Sensors for Faster Run Times and Fewer Injuries | \$100,000 | \$100,000 | \$100,000 | \$610,000 | 7 mo | \$1.3MM |

Resubmission and Carry Through

Round 12

■ Resubmission

- *Five of twenty eight (18%) proposals are resubmissions*
 - three of those five (60%) are Recommended for Funding
- *Phase 1A*
 - One of six (17%) Phase 1A proposals is a resubmission
 - It is not Recommended for Funding
- *Phase 2*
 - Four of fifteen (27%) Phase 2 proposals are resubmissions
 - Three of those four (75%) are Recommended for Funding

■ Carry Through

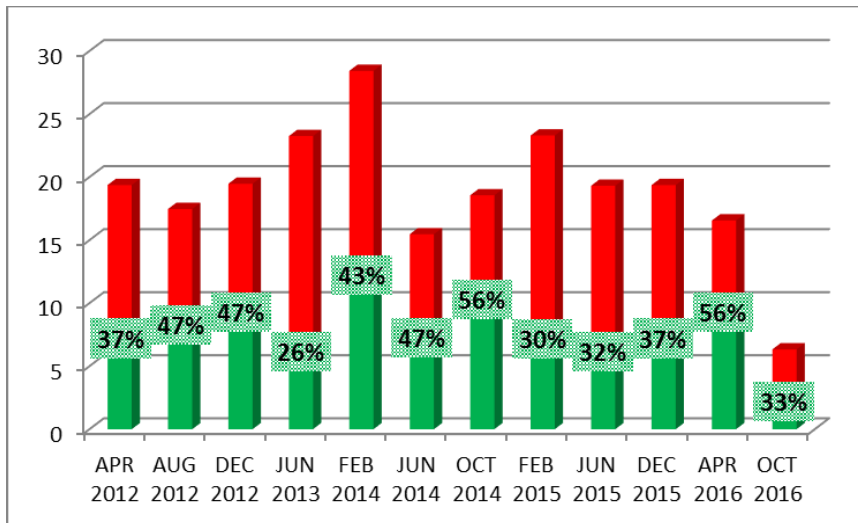
- *Three of fifteen (20%) Phase 2 proposals were previous Phase 1 awardees*
 - One of those three (33%) is Recommended for Funding in this round.

Trends

Comparative Results (all rounds to date)

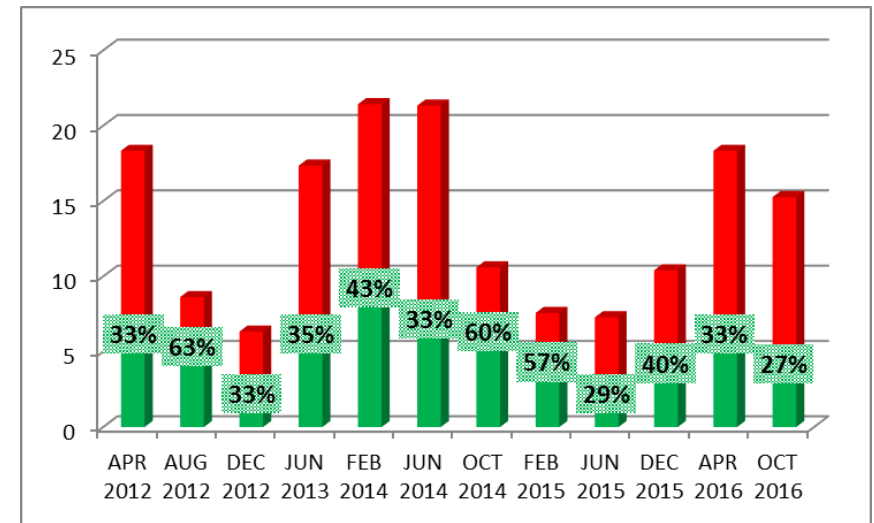
Rounds 1 – 12 Results

Phase 1:A Applications



41% Cumulative Approval

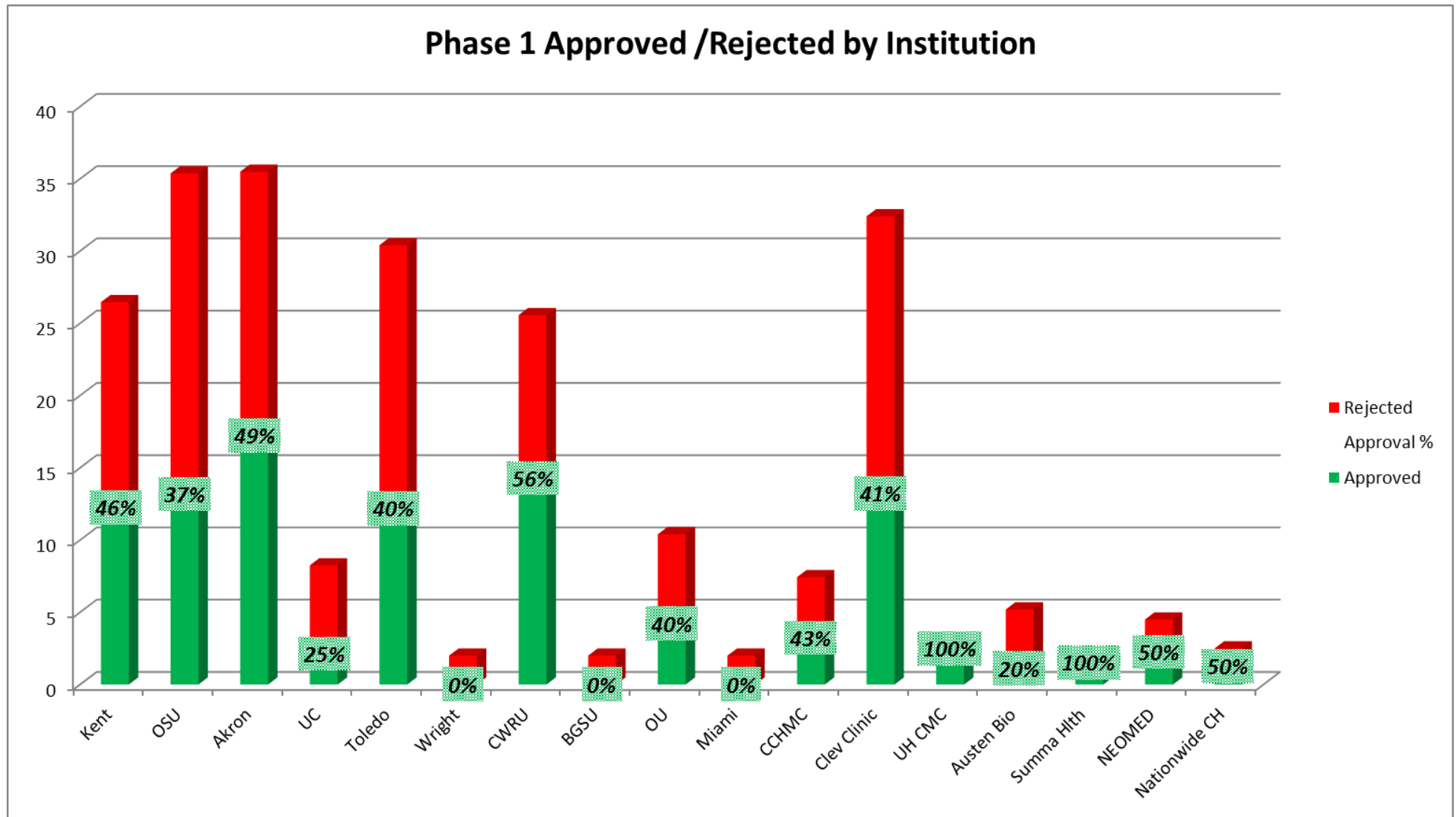
Phase 2 Applications



41% Cumulative Approval

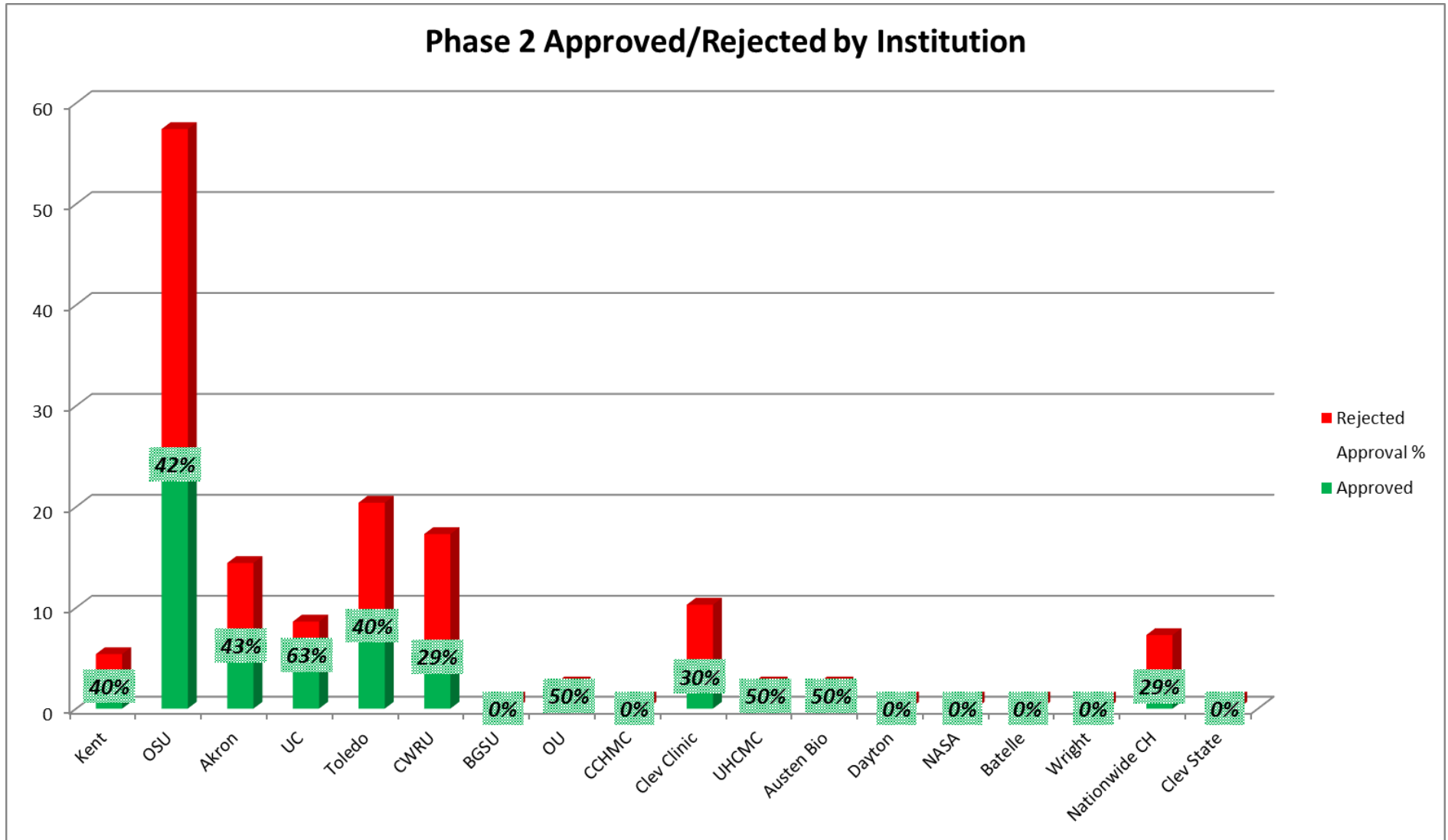
Trends

Cumulative Results – Phase 1 (all rounds to date)



Trends

Cumulative Results – Phase 2 (all rounds to date)





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Commercial Acceleration Loan Fund

Activity History Funding

Round 1 and Round 2 (Consolidated Data)

| | |
|-----------------------------------------------------|----------------|
| 79 Notifications of Interest Received | \$83.5 Million |
| 31 Applications Submitted | \$39 Million |
| 19 Transactions Identified for Due Diligence | \$19 Million |
| 9 Companies Did Not Progress Through Due Diligence | \$9.5 Million |
| 1 CALF Loan Approved (February 2016) | \$1.0 Million |
| 3 CALF Loans (October 2016) | \$2.5 Million |
| 6 CALF Loans Pending | \$5.0 Million |
| 10 Prospective New CALF Loans (Round 1 and Round 2) | \$8.5 Million |

2016 CALF Pipeline Statistics

Assumes 9 loans pending satisfactorily complete the due diligence and approval stages

- Less than 13% of companies submitting notification of interest will reach approval stage
- Only 32% of companies submitting applications will be selected for further due diligence
- Less than 52% of companies reviewed for due diligence will reach approval stage

Commercial Acceleration Loan Fund

NaviStone, Inc.

| Company Name | County | Industry | Project Amount | Loan Award | CALF Project Funding Percentage | New Jobs Created |
|-----------------|----------|------------------------|----------------|-------------|---------------------------------|------------------|
| NaviStone, Inc. | Hamilton | Information Technology | \$1,400,000 | \$1,000,000 | 43% | 15 |

Summary Evaluator Recommendation

Evaluator: Marvin Abrinica, Thrivera

| Management and Team | Capitalization and Fundraising | Market and Industry | Commercialization, Sales and Marketing | Intellectual Property | Product and Technology | Financial Health | Legal | Evaluator Recommendation |
|---------------------|--------------------------------|---------------------|----------------------------------------|-----------------------|------------------------|------------------|-------|--------------------------|
| | | | | | | | | |

Commercial Acceleration Loan Fund

TicketFire LLC

| Company Name | County | Industry | Project Amount | Loan Award | CALF Project Funding Percentage | New Jobs Created |
|----------------|----------|------------------------|----------------|------------|---------------------------------|------------------|
| TicketFire LLC | Franklin | Information Technology | \$667,000 | \$500,000 | 75% | 7 |

Summary Evaluator Recommendation

Evaluator: Jason Fisher, DevFi

| Management and Team | Capitalization and Fundraising | Market and Industry | Commercialization, Sales and Marketing | Intellectual Property | Product and Technology | Financial Health | Legal | Evaluator Recommendation |
|---------------------|--------------------------------|---------------------|----------------------------------------|-----------------------|------------------------|------------------|-------|--------------------------|
| | | | | | | | | |

Commercial Acceleration Loan Fund

Yost Labs, Inc.

| Company Name | County | Industry | Project Amount | Loan Award | CALF Project Funding Percentage | New Jobs Created |
|-----------------|--------|----------|----------------|-------------|---------------------------------|------------------|
| Yost Labs, Inc. | Scioto | Sensors | \$1,333,000 | \$1,000,000 | 75% | 21 |

Summary Evaluator Recommendation

Evaluator: Susan Stanton, Sbc

| Management and Team | Capitalization and Fundraising | Market and Industry | Commercialization, Sales and Marketing | Intellectual Property | Product and Technology | Financial Health | Legal | Evaluator Recommendation |
|---------------------|--------------------------------|---------------------|----------------------------------------|-----------------------|------------------------|------------------|-------|--------------------------|
| | | | | | | | | |



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Services Agency



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Entrepreneurial Services Program: Continuity Plans CY2017–2019

Request for Continuity Plans

- Funding is intended to continue the successful elements of the ESP to sustain and galvanize economic impacts.
- Eligible Organizations:
 - CincyTech, LLC (Southwest Ohio)
 - JumpStart, Inc. (Northeast Ohio)
 - Rev1 Ventures, Inc. (Central Ohio)
 - TechGROWTH/Ohio University (Southeast Ohio)

Goals

- Provide high-value services and resources to advance early stage Ohio companies in order to create new Ohio jobs, attract professional investment capital and generate product sales
- Fill gaps in the regional entrepreneurial system (talent, capital, access to customers, mentor networks, inclusion)
- Continue to build a pipeline of quality technology-based companies
- Identify the high-performers and accelerate growth
- Attract venture capital investment from both within and outside of Ohio
- Foster regional collaboration and alignment among support organizations for the purpose of improving efficiency, sustainability, and accessibility to entrepreneurs

Funding

Funding

- Up to \$41 million for Calendar Years 2017-18
- Option to award up to \$20.5 million for Calendar Year 2019

Cost Share

- Cost Share 1:1
- Minimum 75% in Cash
- Up to 25% in Donated Services
 - High-value services to Clients from professional firms (e.g. legal, tax, accounting, marketing)
 - Documented number of hours at hourly rates that are verifiable and auditable

Entrepreneurial Services Program: Evaluator's Report CY 2017–2019



Urban Venture Group (UVG)

- Consulting firm founded in 2009 to advance the commercialization of early stage technology
 - Provides services related to capital, markets, customers, talent, and management
 - International client base includes large and small businesses, non-profits, entrepreneurs and researchers, and state and Federal agencies
- Review Team:
 - Dr. Burr Zimmerman
 - Co-Founder of UVG; Background in pharmaceutical and med device industries, serial entrepreneur; Raised \$390 million in grant funds; PhD Chemical Engineering
 - Dr. Marc Malandro
 - University of Pittsburgh Vice Chancellor for Technology Management and Founding Director of the Innovation Institute and Commercialization; PhD Biochemistry
 - Dr. Phil Smith
 - Independent Innovation consultant serving primarily Fortune 500 firms. PhD Physics
 - David Brownstein
 - Co-Founder of UVG; Software industry, serial entrepreneur. MS Computer Science



ESP Network Elements





Attributes of Successful ESPs

- ✓ Aligns with ESP program vision and overall OTF vision
- ✓ Will achieve economic impacts within term of program
- ✓ Delivers the volume and quality of high-value services and resources needed by high-potential companies
- ✓ Demonstrates connections with and clear mandate from regional stakeholders, including inclusion programs
- ✓ Is run by a capable, experienced management team; effectively leads, operates, and administers the network
- ✓ Observes and learns; applies best practices; collaborates; leverages resources from around the state.



Funding Recommendations

| ESP Name | Lead Applicant | Funding Recommended |
|-----------------------------------|---------------------|---------------------|
| CincyTech | CincyTech LLC | \$13,875,000 |
| JumpStart | JumpStart, Inc. | \$28,239,982 |
| Rev1 Ventures | Rev1 Ventures, Inc. | \$13,755,000 |
| TechGROWTH Ohio | Ohio University | \$5,443,257 |
| Total Recommended Funding: | | \$61,313,239 |



Evaluation Results

| ESP Program | Regional Focus and Identity | ESP Structure and Management Plan | Client Services | Capital Access and Funding Pipeline |
|---------------|-----------------------------|-----------------------------------|-----------------|-------------------------------------|
| CincyTech | ↑ | ↑ | ↑ | ↑ |
| JumpStart | ↑ | ↑ | ↑ | ↑ |
| Rev1 Ventures | ↑ | ↑ | ↑ | ↑ |
| TechGROWTH | ↑ | ↑ | → | → |

Criteria:

1. Regional Focus and Identity
2. ESP Structure and Management Plan
3. Client Services
4. Capital Access and Funding Pipeline

Legend:

- ↑ – Exceeds Requirements
- – Meets Requirements
- ↓ – Does Not Meet Requirements



CincyTech: Overall



| Recommended State Funding | Cash Cost Share | Donated Services | Total Project |
|---------------------------|-----------------|------------------|---------------|
| \$13,875,000 | \$13,196,710 | \$1,575,000 | \$28,646,710 |

| Regional Focus and Identity | ESP Structure & Management Plan | Client Services | Capital Access and Funding Pipeline |
|-----------------------------|---------------------------------|-----------------|-------------------------------------|
| ↑ | ↑ | ↑ | ↑ |

- Lead Applicant: CincyTech LLC
 - Key Stakeholders: The Branderly; Cintrifuse; Hamilton County Business Center; University of Cincinnati; Cincinnati Children's Hospital; Procter & Gamble; City of Cincinnati; Ernst & Young



CincyTech: Strengths, Weaknesses



Strengths

- Emphasis on high-potential firms, ROI
- “Separate but interconnected” network has achieved effective cooperation and coordination among partner organizations
- High quality services, especially mentor networks, customer access, and capital access
- Deep ties with investors, regional corporations

Weaknesses

- Low emphasis on reporting of metrics and costs



JumpStart: Overall



| Recommended State Funding | Cash Cost Share | Donated Services | Total Project |
|---------------------------|-----------------|------------------|---------------|
| \$28,239,982 | \$25,945,277 | \$2,294,705 | \$56,479,964 |

| Regional Focus and Identity | ESP Structure & Management Plan | Client Services | Capital Access and Funding Pipeline |
|-----------------------------|---------------------------------|-----------------|-------------------------------------|
| ↑ | ↑ | ↑ | ↑ |

- Lead Applicant: JumpStart, Inc.
 - Key Stakeholders: ABIA; AGBA; Akron Development Corporation; BioHio; BioEnterprise; BrainTree; FlashStarts; Fund for Our Economic Future; GLIDE; Global Cleveland; Growth Opportunity Partners; LCCC; MAGNET; NEOMED; OAI; TBEIC; UARF; YBI.



JumpStart: Strengths, Weaknesses



Strengths

- Largest, most diverse ESP network
- Distinct, sector-focused partners delivering targeted services
- Multiple programs and funds to support inclusion
- Actively shares best practices with other ESPs
- Strong support from government, foundations

Weaknesses

- Highest cost ESP, significant expenditures to operate and manage



Rev1 Ventures: Overall



| Recommended State Funding | Cash Cost Share | Donated Services | Total Project |
|---------------------------|-----------------|------------------|---------------|
| \$13,755,000 | \$11,862,000 | \$1,893,000 | \$27,510,000 |

| Regional Focus and Identity | ESP Structure & Management Plan | Client Services | Capital Access and Funding Pipeline |
|-----------------------------|---------------------------------|-----------------|-------------------------------------|
| ↑ | ↑ | ↑ | ↑ |

- Lead Applicant: Rev1 Ventures, Inc.
 - Key Stakeholders: Ohio State; Nationwide Children's Hospital; Ohio Health; City of Columbus; Columbus 2020; Franklin County; City of Dublin



Rev1: Strengths, Weaknesses



Strengths

- Strong corporate, institutional engagement
- Rigorous, consistent, structured programs, well-designed to support institutional deal flow
- Strong capital access, organized into a clear, sequential funding pipeline
- Successful rebranding effort since last cycle

Weaknesses

- Services designed to support institutional deal flow lack flexibility for organic deal flow



TechGROWTH: Overall



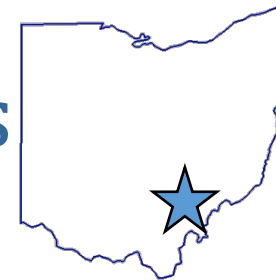
| Recommended State Funding | Cash Cost Share | Donated Services | Total Project |
|---------------------------|-----------------|------------------|---------------|
| \$5,443,257 | \$4,675,857 | \$767,400 | \$10,886,514 |

| Regional Focus and Identity | ESP Structure & Management Plan | Client Services | Capital Access and Funding Pipeline |
|-----------------------------|---------------------------------|-----------------|-------------------------------------|
| ↑ | ↑ | → | → |

- Lead Applicant: Ohio University
 - Key Stakeholders: Muskingum County Business Incubator; Belmont Community Improvement Corporation; Shawnee State University; and Lawrence Economic Development Corporation



TechGROWTH: Strengths, Weaknesses



Strengths

- Reasonable performance in the context of the region's economic realities
- Early stage and basic entrepreneurial services reflect the demand and needs of the region
- Increasingly collaborative across the state
- Strong reporting and compliance

Weaknesses

- Lack of mentoring and customer access for high-potential firms; limited follow-on capital.



Discussion

Entrepreneurial Services Program CY 2017-2019