

Ohio Third Frontier Joint Meeting

April 14, 2016

Ohio | Development
Services Agency

Ohio | **Third Frontier**
Innovation Creating Opportunity

CY 2016 Program Plan Update

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CY 2016 Program Plan

Program	CY 2015	CY2016
Entrepreneurial Signature Program (previously committed)		24
Pre-seed Fund Capitalization Fund/Seed Plus	60	–
Increasing Output	*	*
Commercial Acceleration Loan Fund	7	25
Technology Validation & Start-up Fund	3	5
Third Frontier Internship Program	–	1
Total	70	31

* Placeholder for proposed ideas to increase output by 50% (Consensus Document)

Repositioning of Technology Focus Area Language

What We Support

Ohio Third Frontier seeks compelling business models for near-term market opportunities based on technology and tech-enabled products and services in the following areas of preference:

- Software/Information Technology
- Biomedical/Life Sciences
- Advanced Materials
- Sensors
- Energy
- Advanced Manufacturing

Entrepreneurial Signature Program (ESP)

- Northwest/West Central regions open competition
- Remaining four regions submit continuation plans
- Funding for 2017–18 with 2019 as option year

Technology Validation and Start-up Fund (TVSF)

- Released proposal solicitations on March 30, 2016
- Added Phase 1 option to create institutional validation fund up to \$1 million vs. single project submission
- Reduced requirement for Phase 1 cost share if project has come through Icorps@Ohio from 1:1 to 1:2. On \$100,000 project, OTF will provide \$75,000

Ohio Tech Internship

RFP open to companies on February 25, 2016

305 students
registered in
system

79 company
applications

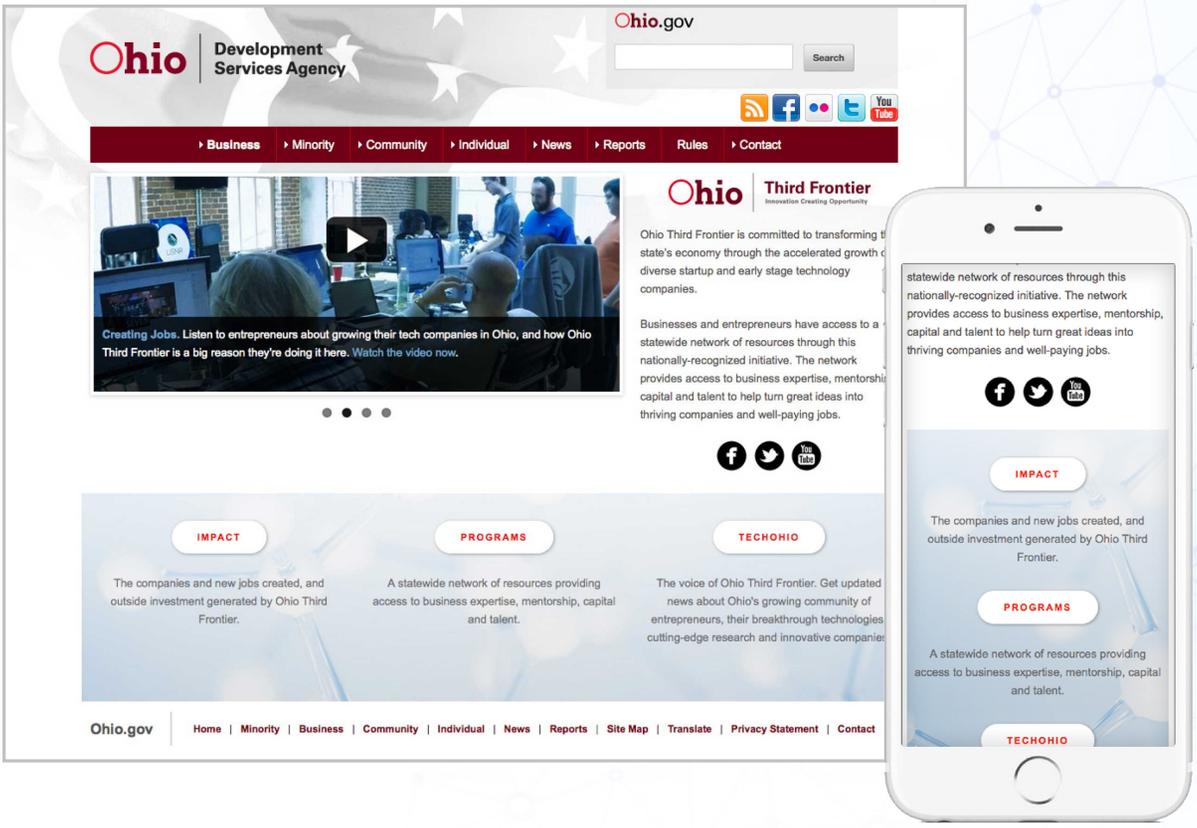
34 projects
approved

Commercial Acceleration Loan Fund

This agenda item will be discussed
later in the presentation

Operational

Website continuing to be revised to reflect startup and early stage focus, better align with TechOhio



Ohio Third Frontier 2015 Impact Update

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Startup and Early Stage Portfolio

Over 1,400 companies have received business assistance with roughly 35% receiving some Pre-seed investment.

This analysis focuses on the 315 receiving over \$100K since 2006



Pre-Seed Investments Since 2006

315 companies

\$154 million total invested

2,584

New Jobs

\$1.5B

Follow-on
Equity

\$1.2B

Product
Sales / Rev.

2015 Highlights

511 new jobs
new yearly record

39% increase
compared to 2014

\$168M in new
investment

36 companies
raised more than \$1M

\$396M in sales
new yearly record

38% increase
compared to 2014

44 companies
sold more than \$1M

2015 Highlights

Acquisition

Cardioinsight
Explorys
Movable
Flexlife Health

Expansion

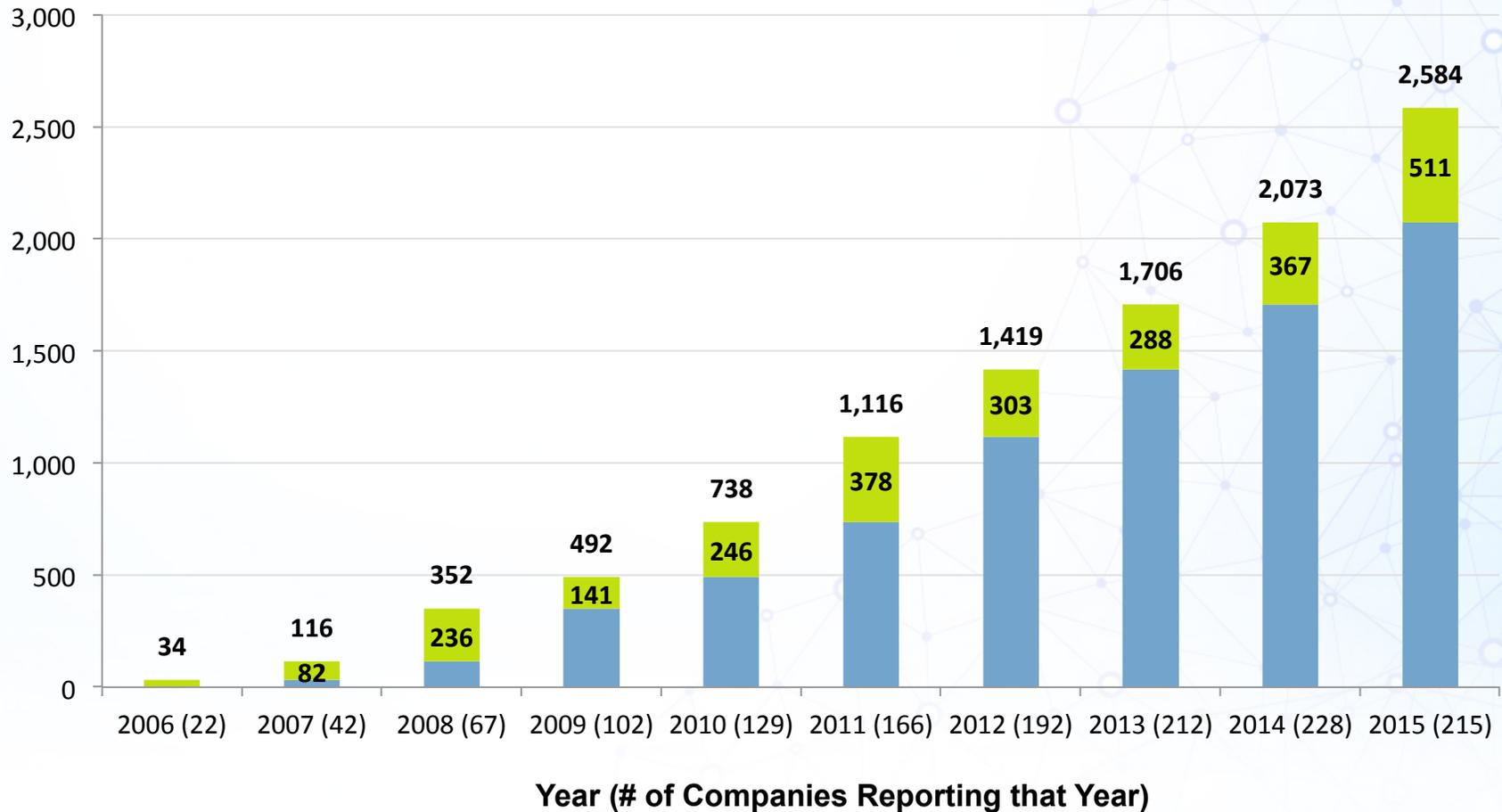
CoverMyMeds
AssureX
Enable Injections
Updox

Recognition

Eight companies
among the nation's
fastest growing:
Inc. 5000
Forbes
Deloitte

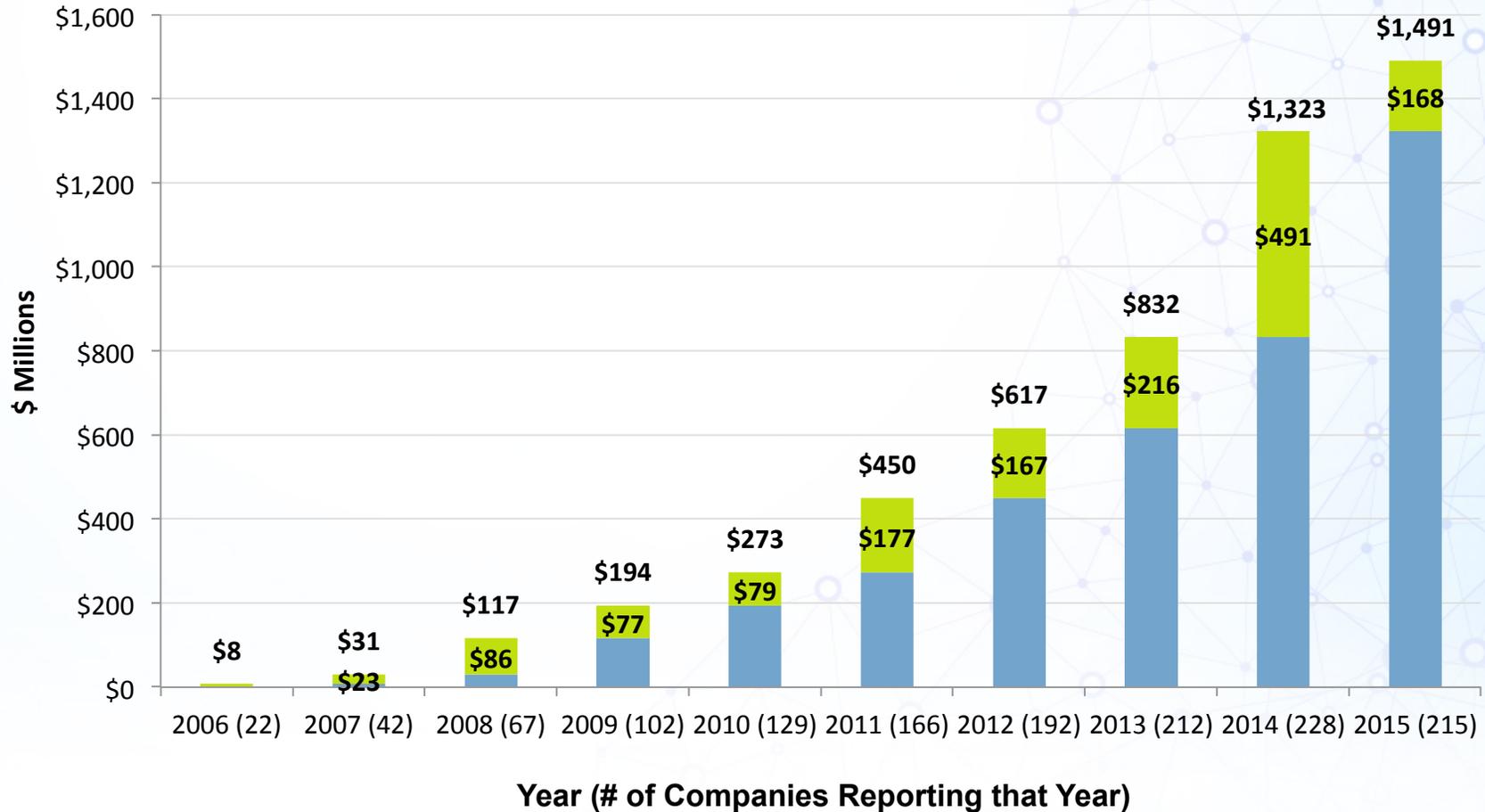
Total New Jobs Created

Green indicates net new job creation from the prior year



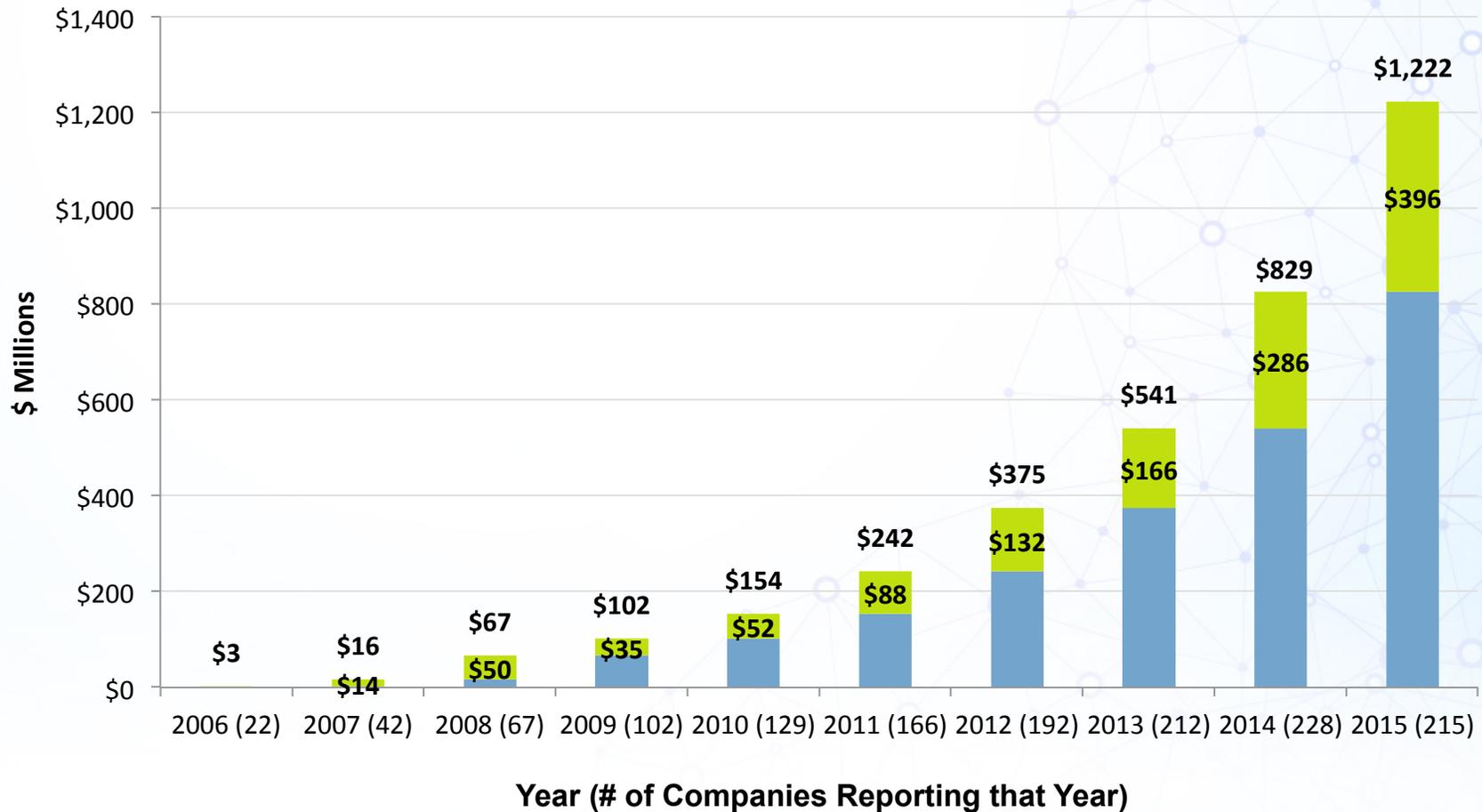
Follow-on Equity Generated

Green indicates new equity generated in that year



Product Sales / Revenue Generated

Green indicates new product sales / revenue generated in that year



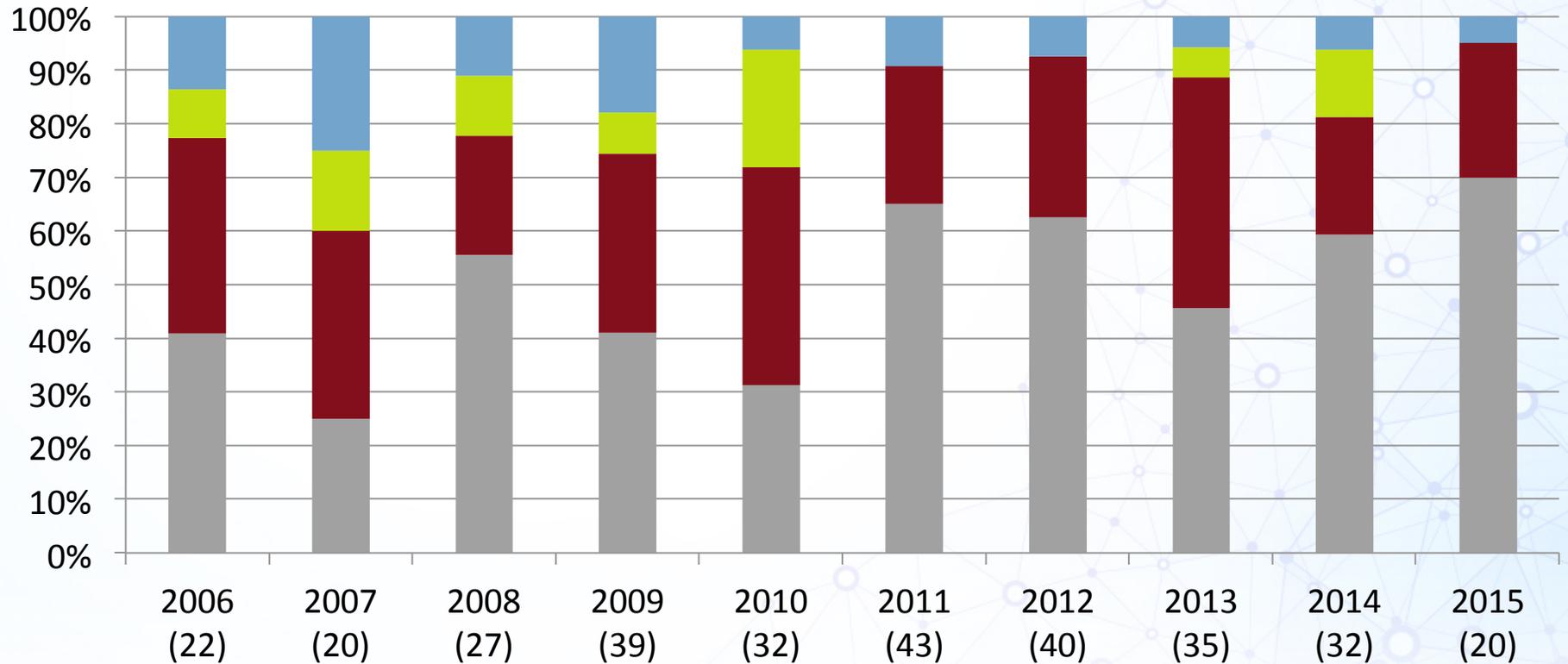
Totals by Tech Focus Area

Med Tech and IT continue to be the primary jobs and leverage generators

	All	Medical Technology	Software / IT	Advanced Materials	All Other Tech
Total Companies	315	92	164	25	34
Total Investment \$M	\$154	\$58	\$72	\$11	\$13
New Jobs Created	2,584	714	1,565	110	195
Follow-on Equity \$M	\$1,491	\$794	\$476	\$123	\$98
Product Sales / Rev \$M	\$1,222	\$282	\$652	\$93	\$195

Vintage by Tech Focus Area

Investments are increasingly concentrated in med tech and IT



■ Software / IT ■ Medical Technology ■ Advanced Materials ■ All Other

(# companies)

Metrics by Vintage

Companies are assigned to a vintage based on the year they received their initial investment

	Totals	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Companies	315	22	20	27	39	32	43	40	33	32	20
Total Investment \$M	\$154	\$13.6	\$10.0	\$15.1	\$22.0	\$16.3	\$20.9	\$21.6	\$14.7	\$14.7	\$4.6
New Jobs	2,584	466	93	125	508	535	173	324	116	217	30
Follow-on Equity \$M	\$1,491	\$268	\$324	\$136	\$175	\$285	\$126	\$91	\$57	\$26	\$3
Product Sales \$M	\$1,222	\$323	\$49	\$130	\$259	\$234	\$55	\$102	\$23	\$45	\$1



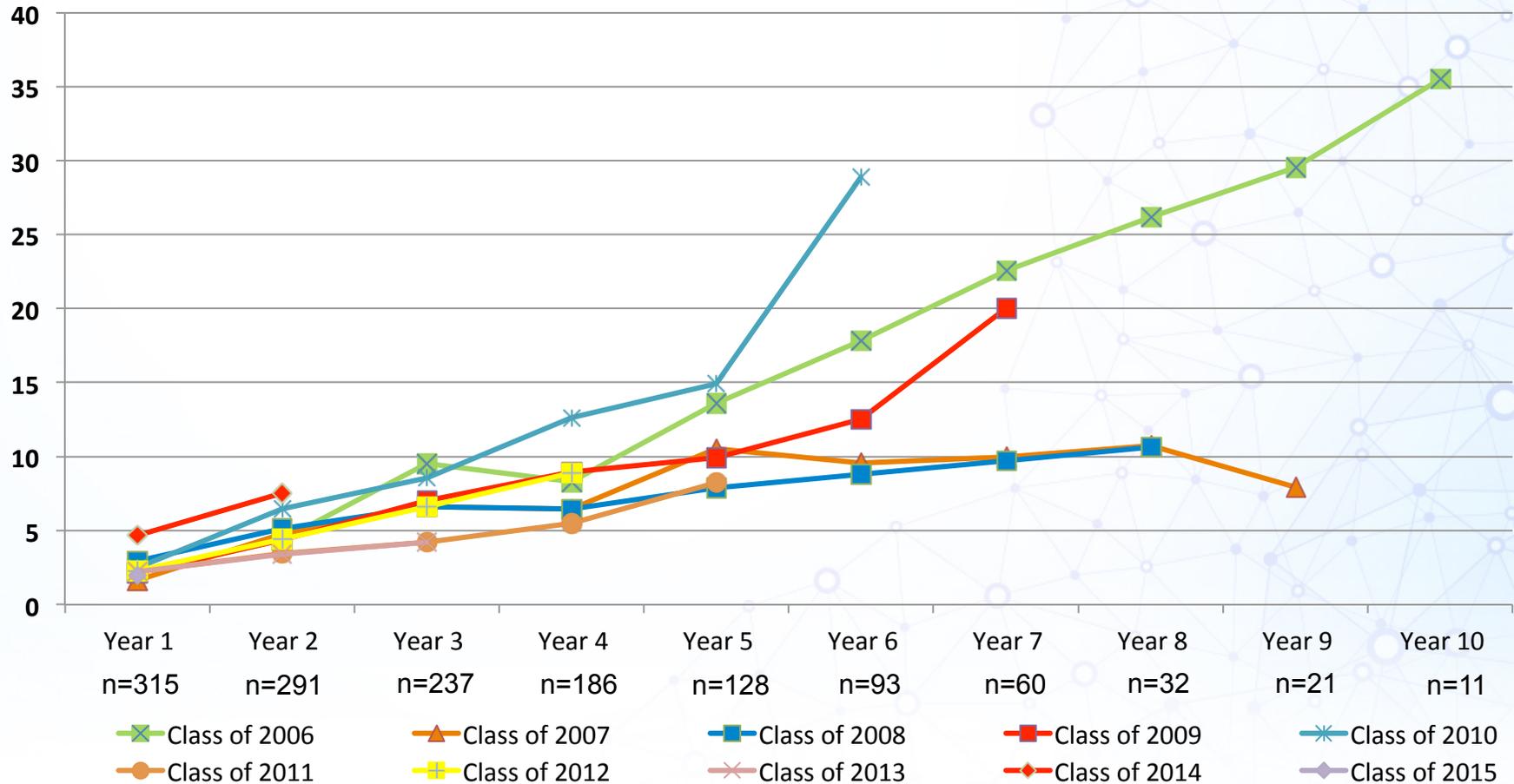
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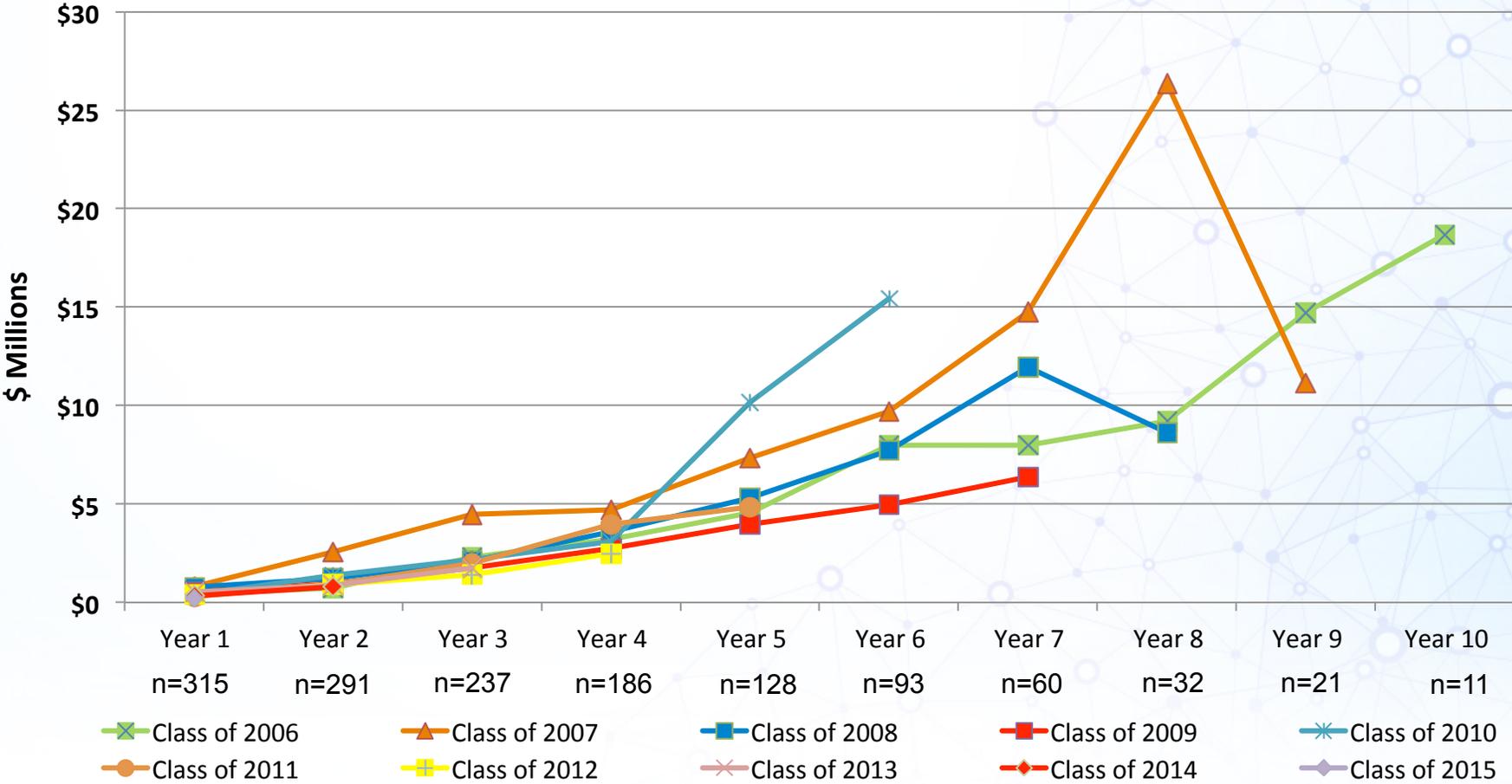
Jobs Created by Vintage

Per-reporting-company average



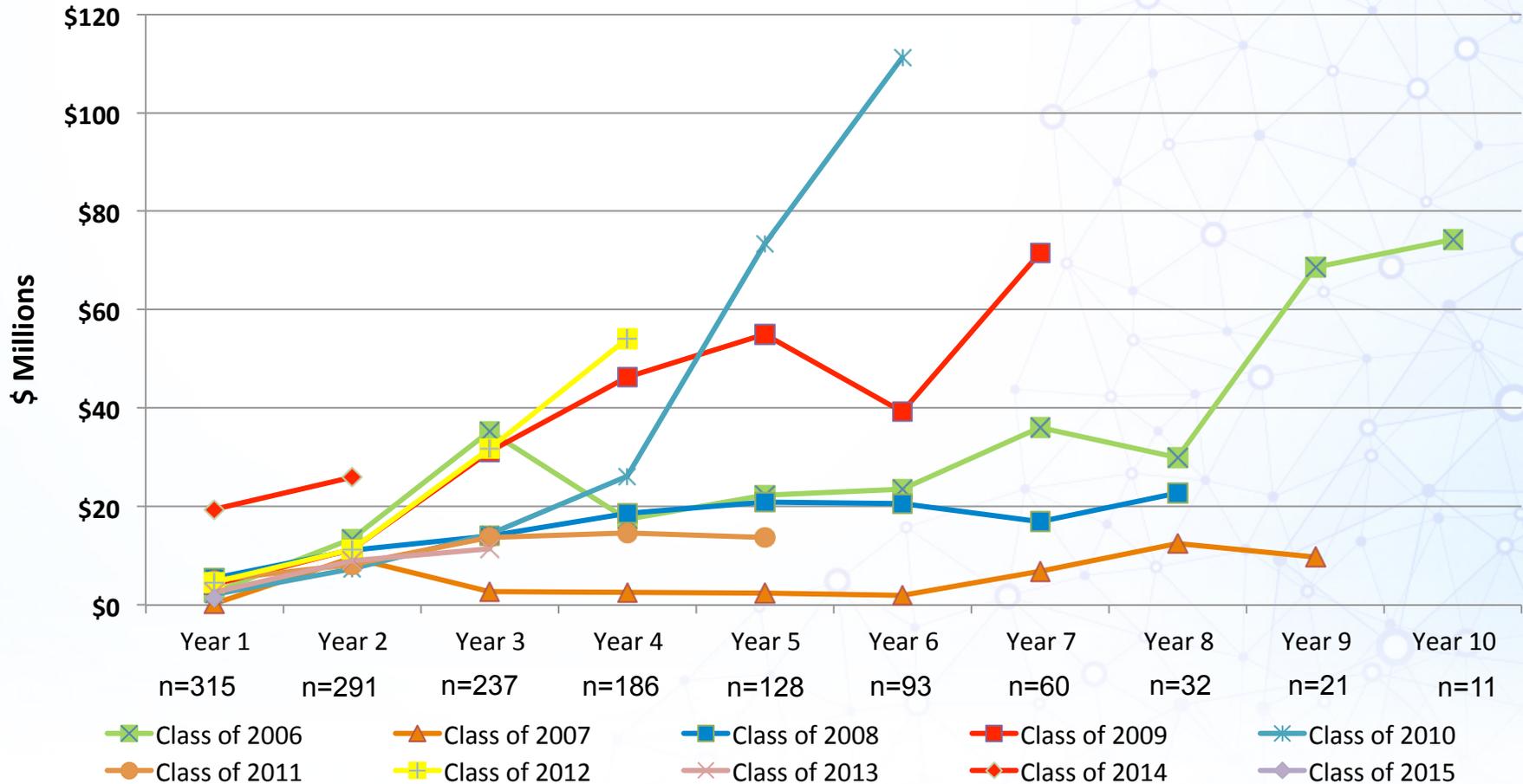
Follow-on Equity Generated by Vintage

Per-reporting-company average



Product Sales / Rev Generated by Vintage

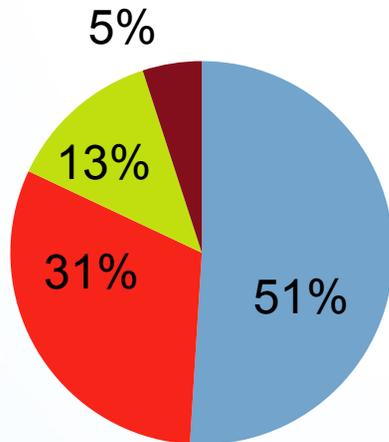
Yearly totals



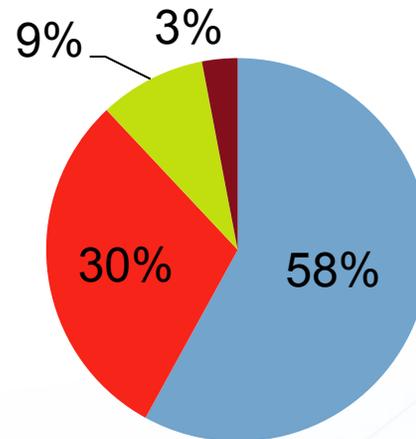
Metric-Specific High Performers

Each pie chart represents the top companies for that metric.
“Blue” companies for jobs may not be “blue” for equity or sales.

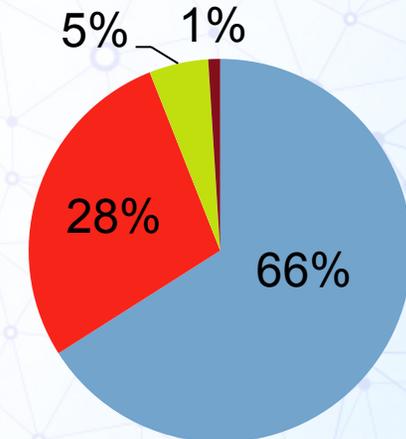
New Jobs



Follow-on Equity



Product Sales / Rev

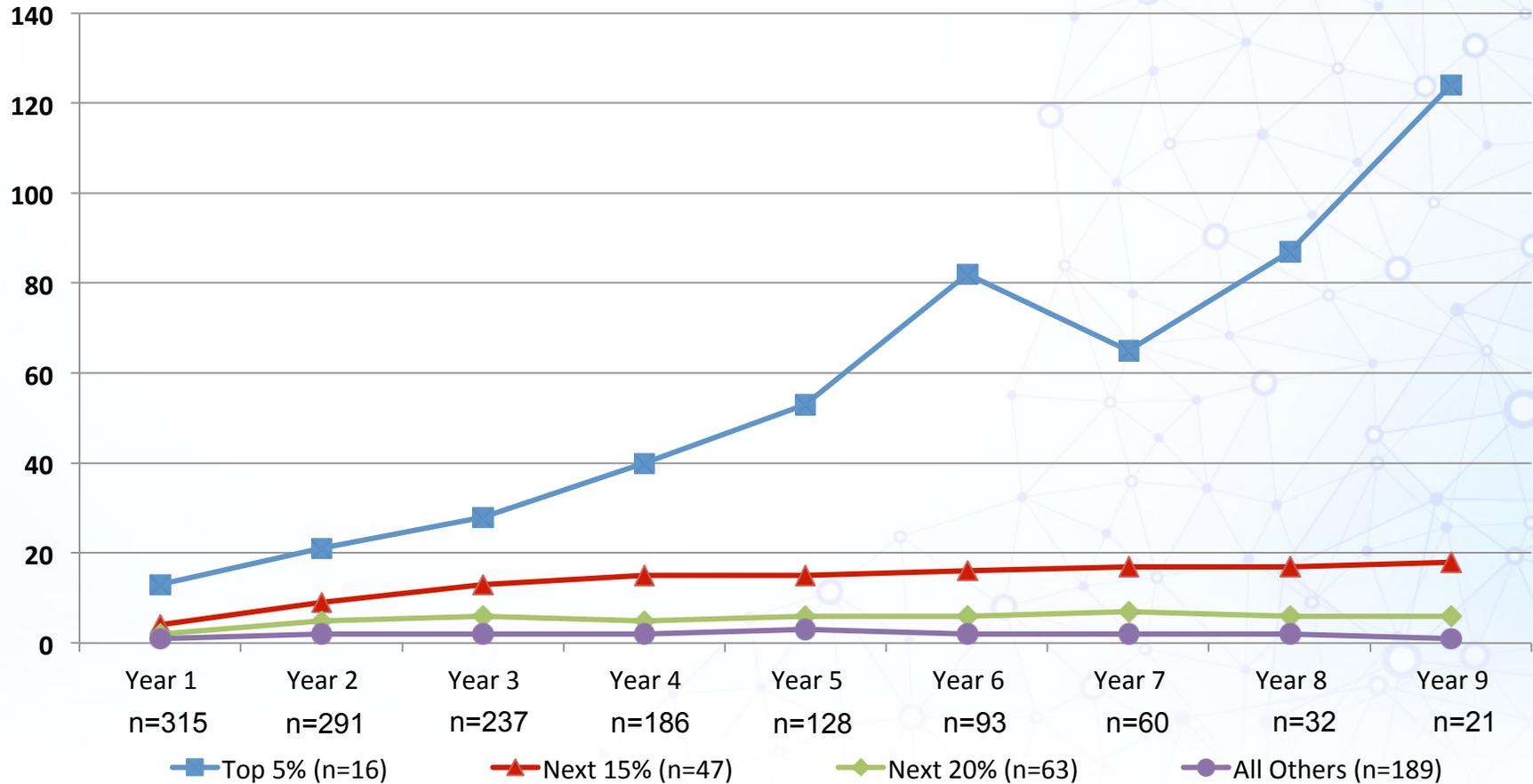


■ Top 5% (16) ■ Next 15% (47) ■ Next 20% (63) ■ All Others (189)

(parentheses indicate total companies)

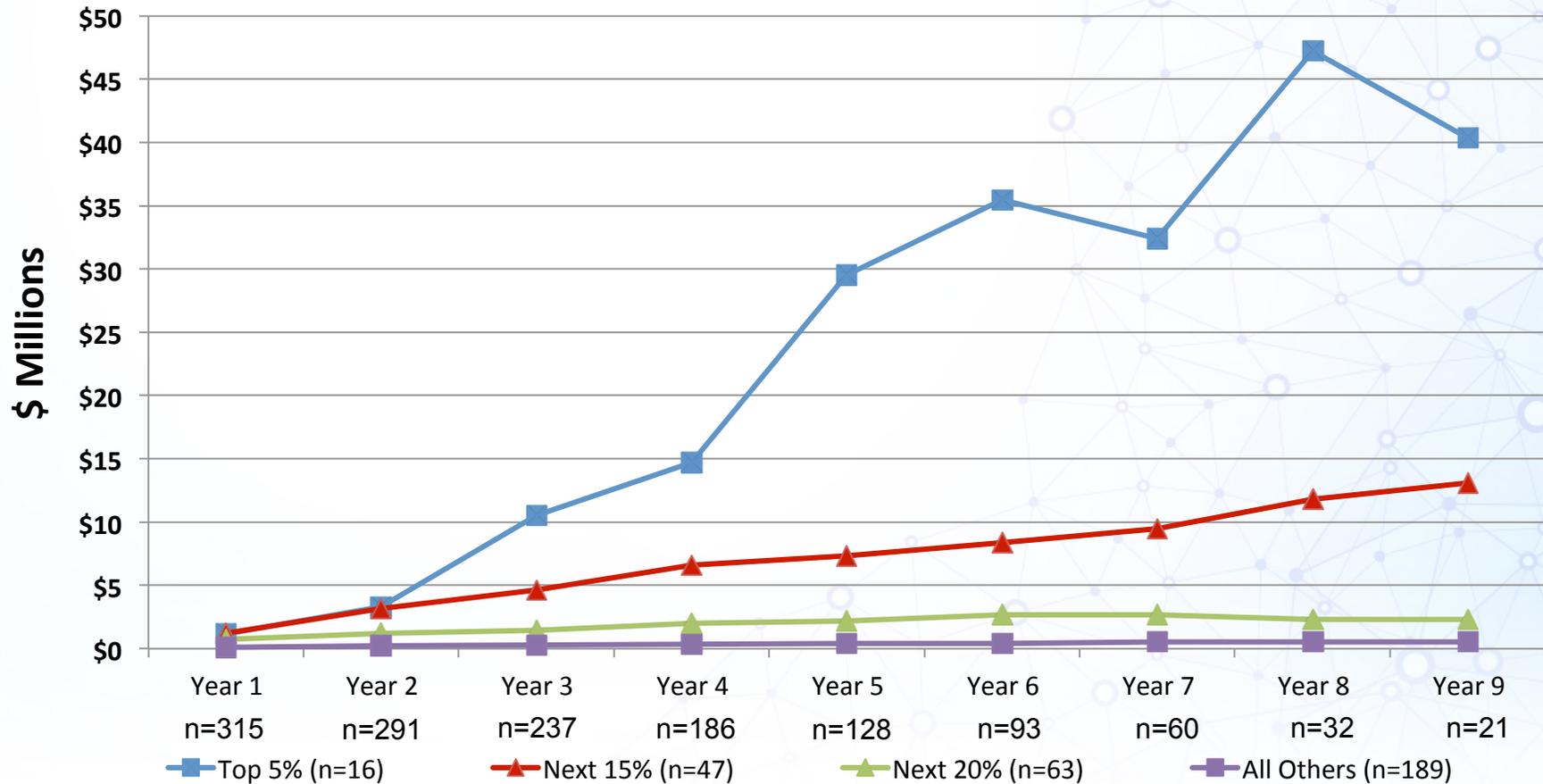
Jobs Created by Performance Percentiles

Per-reporting-company average



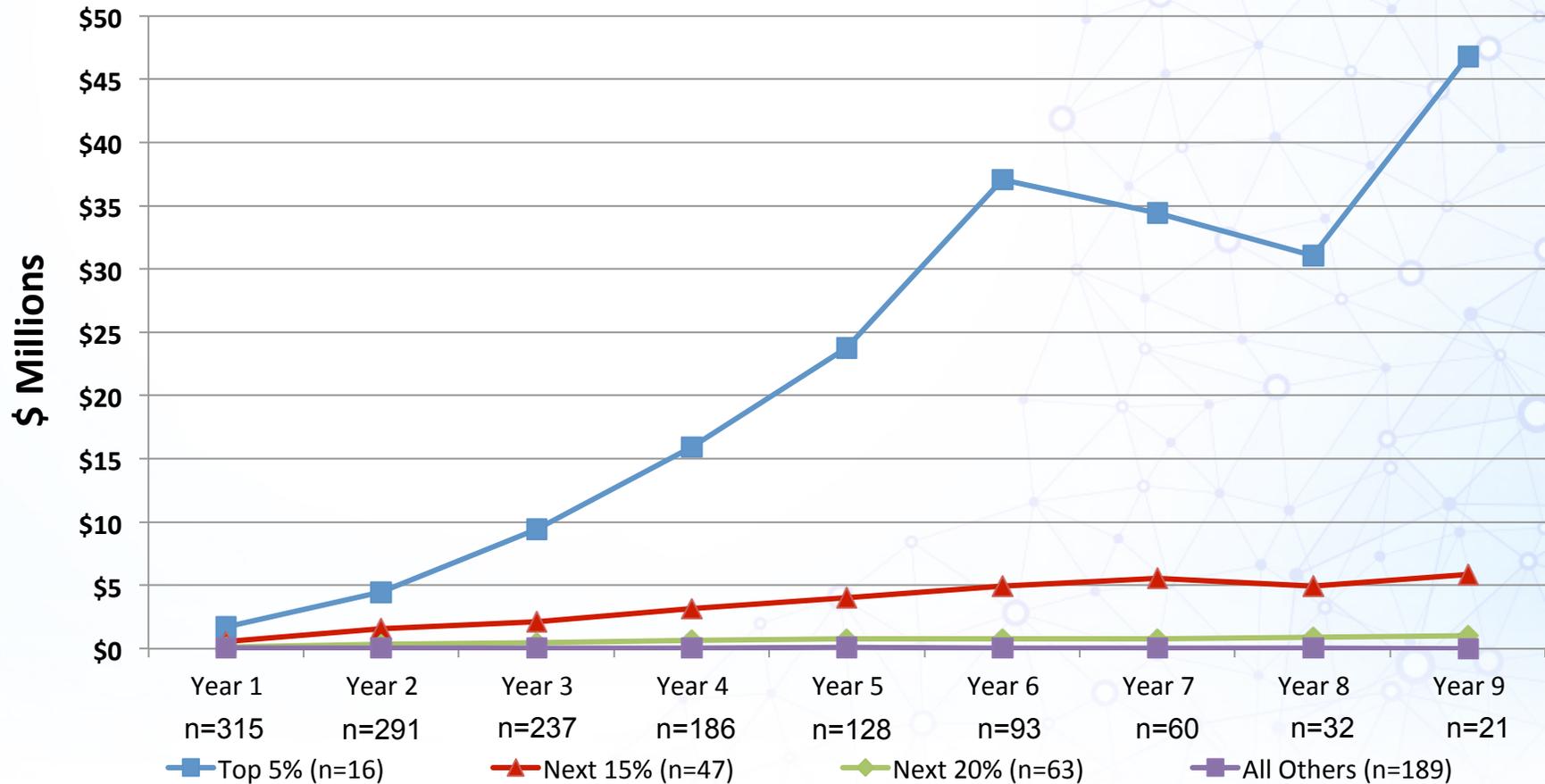
Follow-on Equity Generated by Performer Class

Per-reporting-company average



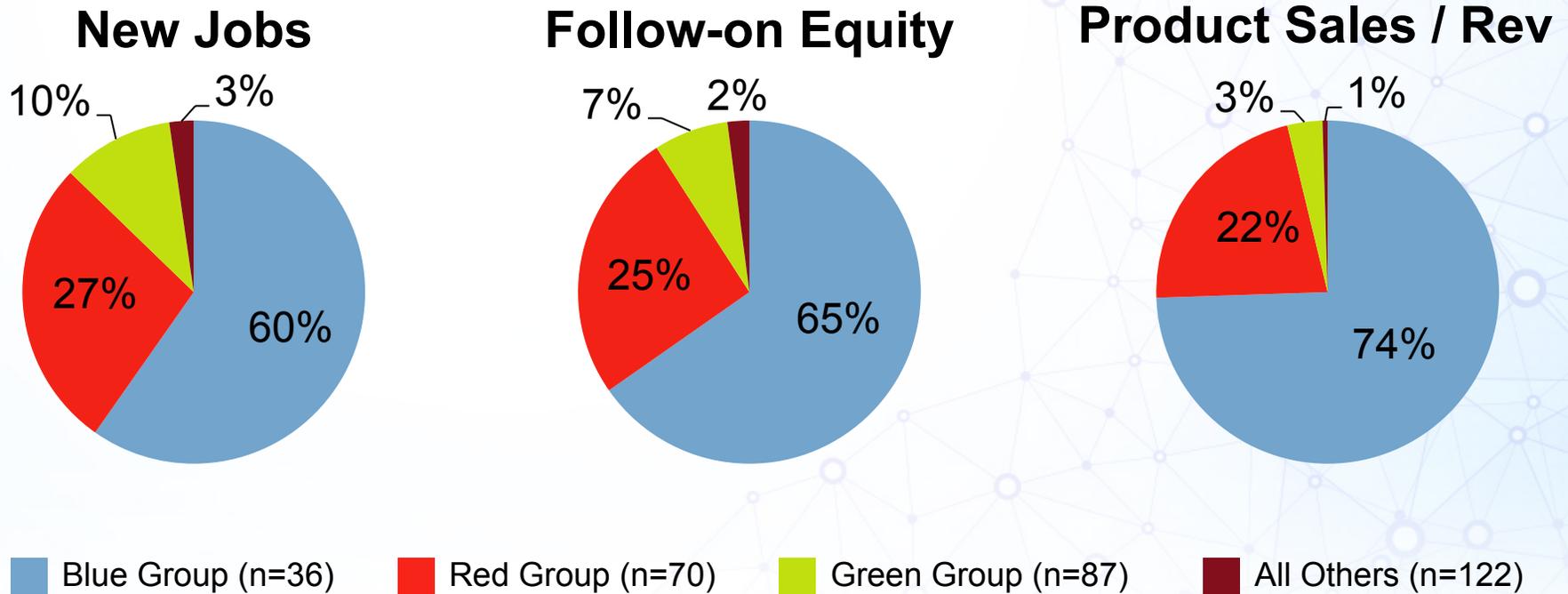
Prod. Sales / Rev Generated by Performer Class

Per-reporting-company average



Composite High Performers – All Metrics

Each pie wedge contains the same companies across metrics.
Any and all “blue” companies before are “blue” here.



Notable Successes in 2015



#542 on Inc. 5,000 “150 Great Places to Work in Healthcare”



Raised \$10 million Series B round led by Intel Capital



Acquired by Medtronic for \$93 million



Raised \$7.5 million institutional round



5 new jobs, 21% increase in revenue



Grew to 30 employees



312% revenue growth



#295 on Inc. 5,000 fastest-growing companies list



31 new jobs, revenue more than \$10 million annually

ESP Data Validation Project

Assessing the Collection System
and the Metrics



Benefits of Validation

- Observe existing ESP practices for:
 - Metrics Information Collection
 - Data Verification Efforts
- Confirm the accuracy of self-reported statistics
 - Jobs, follow-on-equity, intellectual property
- Analyze data
 - Eliminate duplication, measurement anomalies
 - Refine questions and lower cost of compliance

Project Specifics

Process

- Process conference call with each ESP
 - Collect documentation of existing practices
- On-site visit to each ESP for data validation
- Review of all data internally at ODSA
- Share best practices with Commission and ESP Network

Progress

- Conducted 4 of 5 conference calls
- Performed 3 of 5 on-site visits
- Will compile best practices at completion of on-site visits
- Follow-up review in 2016 or early 2017

Pre-seed Fund Analysis

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Company Investment

462 Pre-seed Companies

\$149M
OTF and Cost Share

94%

Less than
\$1 Million

89%

Less than
\$750,000

76%

Less than
\$500,000

56%

Less than
\$250,000

Pre-Seed Investment

94%

Two or less
Pre-seed Funds
Investing per
Company

80%

One Pre-seed Fund
Investment per
Company

462 Pre-seed Companies Total

Syndication: 3 or more Pre-seed Investors

10
companies
All Funds
In-Region

12
companies
1 Angel Fund
Out-of-
Region

7
companies
Mixed
Regions

29 Pre-seed Companies

Pre-seed Companies Receiving Other State-Supported Capital

	Pre-seed only	OCF	IOF	CALF	OCF/IOF	IOF/CALF	CALF/OCF
Pre-seed	85%	6%	10%	4%	3%	2%	0%

Pre-seed companies make up **32%** of Ohio-based OCF portfolio

Pre-seed companies make up **68%** of CALF portfolio

Pre-seed companies make up **40%** of IOF portfolio

OCF: Ohio Capital Fund
 IOF: Innovation Ohio Loan Fund
 CALF: Commercial Acceleration Loan Fund

Pre-seed Companies Receiving Other State-Supported Capital

	Pre-seed only	OCF	IOF	CALF	OCF/IOF	IOF/CALF	CALF/OCF
Pre-seed	85%	6%	10%	4%	3%	2%	0%
	\$97.1M	\$117M*	\$45M	\$24M	N/A	N/A	N/A
		\$51.9M Pre-seed					

*\$12.9M of the \$117M is the contribution from the OCF

OCF: Ohio Capital Fund
 IOF: Innovation Ohio Loan Fund
 CALF: Commercial Acceleration Loan Fund

Follow-on Investment

**Amount of Follow-on
Investment (non-state)
Per Company**

\$1.5B

10 to 1 ratio to Pre-seed

462 Pre-seed Companies

Range	Percent of Companies	Cumulative
More than \$100M	0.06%	0.06 %
\$50M – \$99.99M	0.04%	1%
\$10M – \$49.99M	5%	6%
\$5M – \$9.99M	6%	12%
\$1M – \$4.99M	19%	31%
\$500K – \$999K	10%	41%
\$1 – \$499K	33%	74%
\$0	26%	—

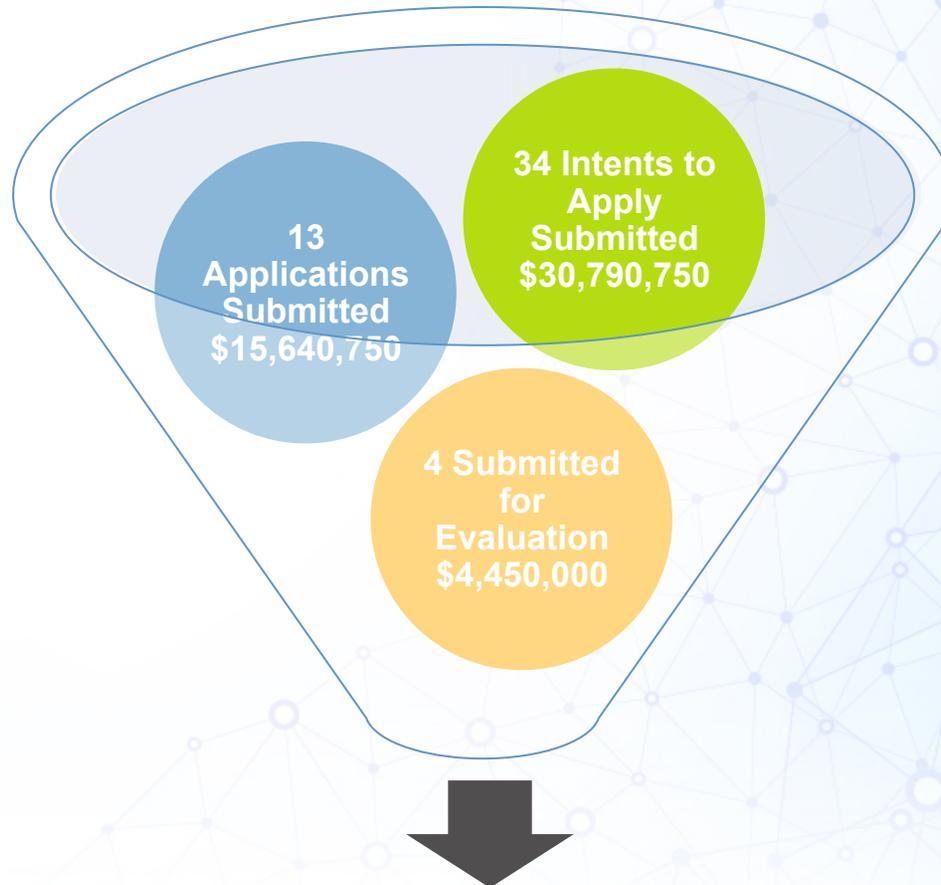
Commercial Acceleration Loan Fund

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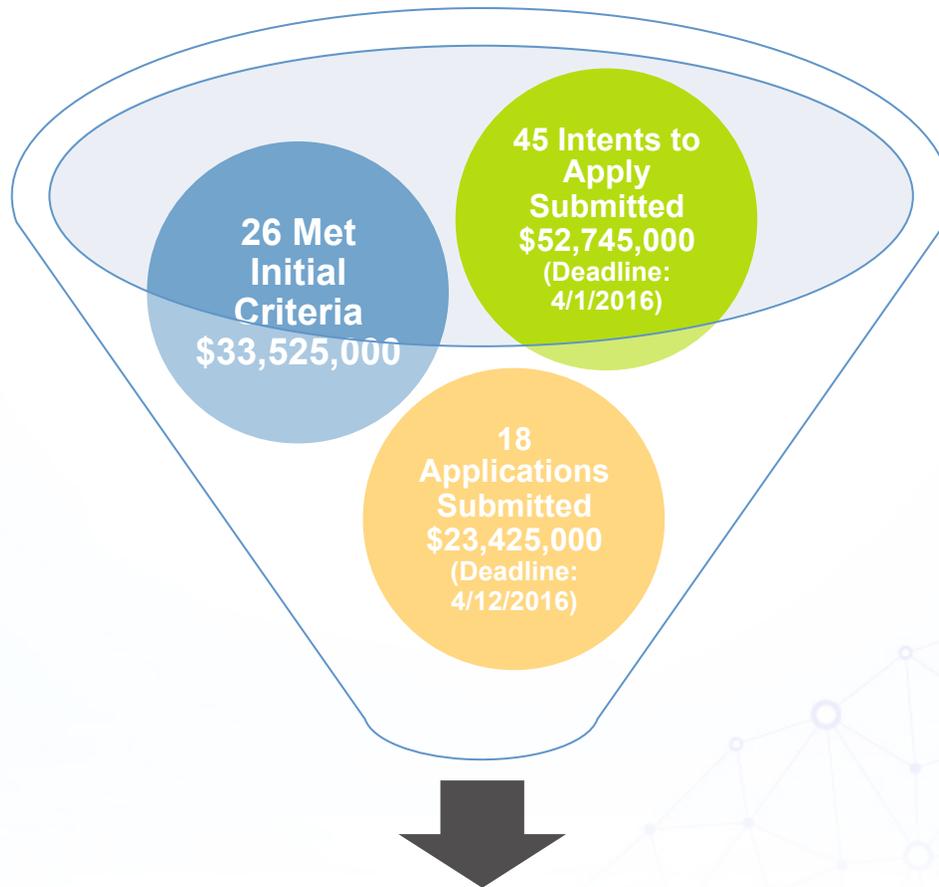
Commercial Acceleration Loan Fund

**Request for Applications
Round 1 (2015)**



**April 2016 Request for Approval:
1 Borrower Totaling \$1M**

Commercial Acceleration Loan Fund



**Request for Applications
Round 2 (2016)**

Commercial Acceleration Loan Fund

Investment Discussion

Capture Near-Term Commercialization Opportunities

- Ex: growth-stage companies currently in pipeline
 - Cleveland Heart Lab
 - Print Syndicate
- Streamline the due diligence process when revenues validate the technology
- Secondary or alternative collateral positions

Balance Sustainability with Investment Opportunities

- Standard graduated 5% of sales repayment model returns funds to portfolio primarily 4–7 years after the initial investment in early stage or pre-revenue loans
- Offset later investment returns with shorter-term opportunities that pay back in 1–4 years
- Allow portfolio decisions into overall investment strategy
- Maintain flexibility for high-value, disruptive transactions



Panel Discussion

Commercial Acceleration Loan Fund

Doug Groh, (Moderator) CincyTech

Bob Beech, Eccrine Systems

Phillip Ogilby, STACK Construction Technologies

Ross Kayura, Nanofiber Solutions

Inclusion

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Moving the Needle on Inclusion

- Third Frontier strategic push
- National pull
 - NVCA Inclusion and Diversity Task Force
 - Silicon Valley
- Rise in national inclusive investing
 - Corporations and Foundations
- Success stories

Inclusion

Intentionality

- Outreach
- Partnerships
- Promotion of successes
- Embedding diversity

Examples of New Partnerships

<BLK hack>



i.c.stars | *



Inclusion: a Strategic Priority

- A key ESP goal
“...to engage minority, women and rural entrepreneurs, and to position Ohio as a leader in inclusive technology entrepreneurship.”
- Evaluation criteria
- Reporting
- Programmatic adjustments

Ultimately strive to embed inclusion into all that we and our partners do

Action Items

Programmatic

- ESP client definition: expanded to include technology-enabled
- ESP cost share: up to 10% allowable for broader inclusion-related efforts

Action Items

People and Education

- Mentors
- Selection committees
- Client onboarding

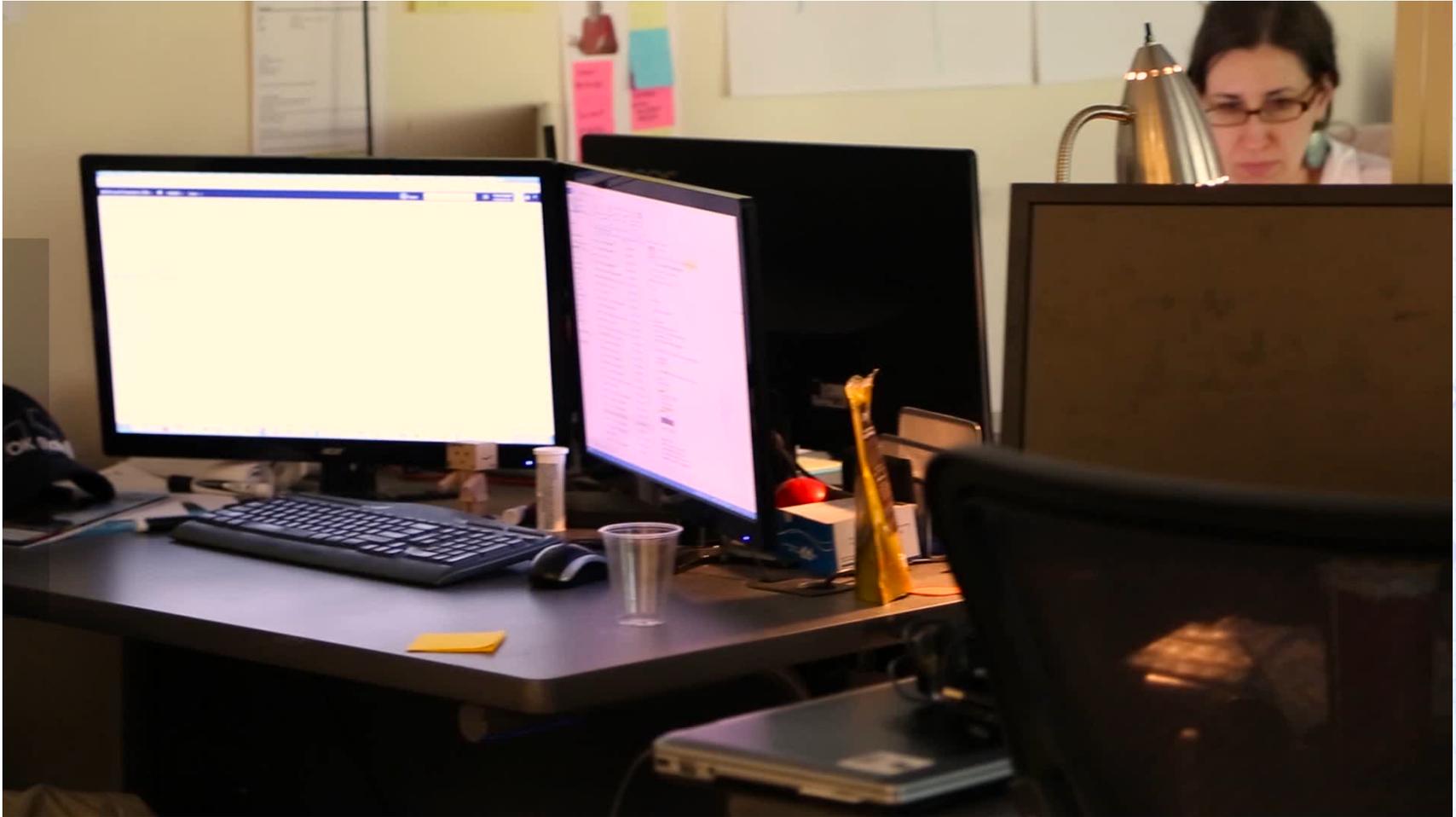
Statewide Events

Action Items

Big Ideas

- Explore national partnerships
- Inclusion Challenge Grant

Promotional/Outreach



Technology Validation and Start-up Fund (TVSF)

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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** – 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 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 with no cost share (\$150,000 in areas of Medical Tech or Software Applications)
- External Evaluator: YourEncore

your
encore[®]

TVSF Cycles

Eleventh Cycle of the TVSF Program

To date, including this cycle:

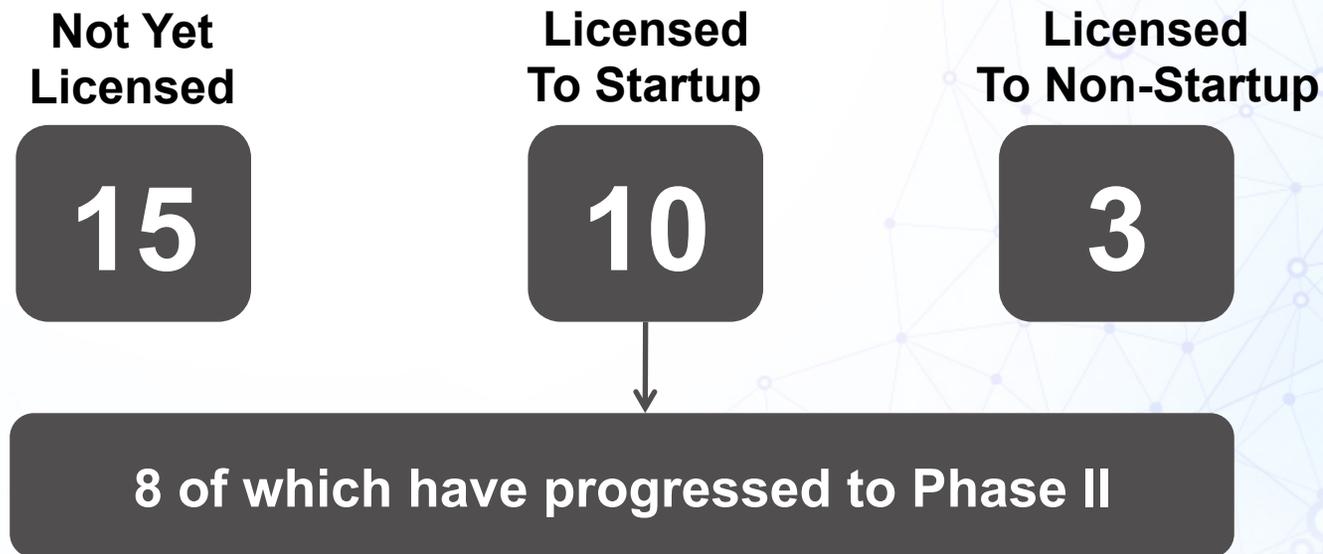
- Phase 1 proposals: 216 Phase 1 awards: 88
- Phase 2 proposals: 140 Phase 2 awards: 56

Current cycle

- 34 proposals with 15 recommended for award
- 11 proposals are re-submits, of which 7 are recommended

TVSF Phase 1 Progress

To date, **31** Phase 1's are complete:



TVSF Phase 2 Progress

To date, **17** Phase 2's are complete:

Trials/ R&D

6

**Pre Market
Entry**

6

**Market
Entry**

4

7 of which have gotten equity investments



Technology Validation and Start Up Fund

Round 11

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Tabled Vote from Round 10 Commission Meeting - 17 DEC 2015

- Due to attending members' need to abstain from OSU voting, a quorum for 16-124 was not possible at the DEC meeting.

Proposal 16-124	Ohio State University	<i>REZEN</i>
Amount Requested: \$50,000	Recommended: \$50,000	
Prior Phase 1 Application(s):	N/A	

<i>PROPOSAL #</i>	<i>Licensing Institution</i>	<i>PROJECT TITLE</i>	<i>Generation of Proof to be Licensed</i>	<i>Project Plan / Team</i>	<i>3rd Party Review</i>	<i>Reasonable Path to Mkt</i>	<i>IP Protection</i>	<i>Start-up in Ohio</i>	<i>Market Opportunity / Size</i>	<i>Budget Narrative / Use of Funds</i>
16-124	Ohio State	REZEN								

- Applicant proposes further development to improve the overall efficiency of ultraviolet light emitting diodes (UV-LED) in order to replace standard mercury lamp-based UV sources for water purification applications.
- Proposed funding would be used to optically optimize the LED .
- The proposal addresses all of the criteria for Phase 1 TVSF and is recommended for funding.

Overview

- 44% of grants submitted this round are recommended for approval (15 of 34). Total grant dollars recommended is \$1,239,000.

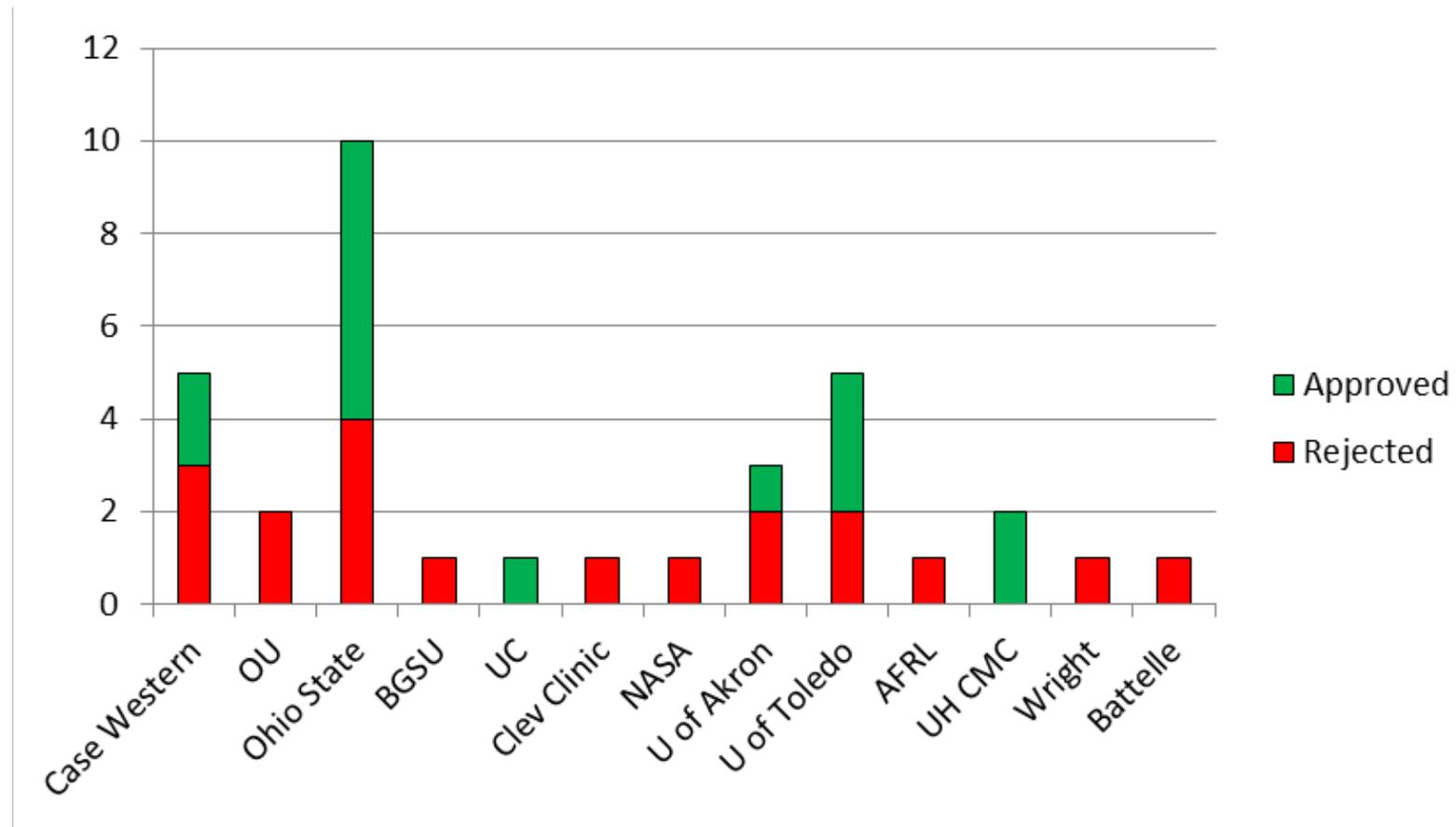
Round	Approval Rate	\$\$ Recommended
1	35%	\$950,000
2	52%	\$900,000
3	44%	\$610,000
4	30%	\$864,000
5*	46%	\$1,462,000
6	39%	\$998,000
7	57%	\$1,100,000
8	37%	\$710,000
9	31%	\$550,000
10	38%	\$925,000
11	44%	\$1,239,000
Overall	41%	\$10,308,000
Average		\$937,091

- Three new applicants this round:
 - NASA
 - AFRL
 - Battelle

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

Overview

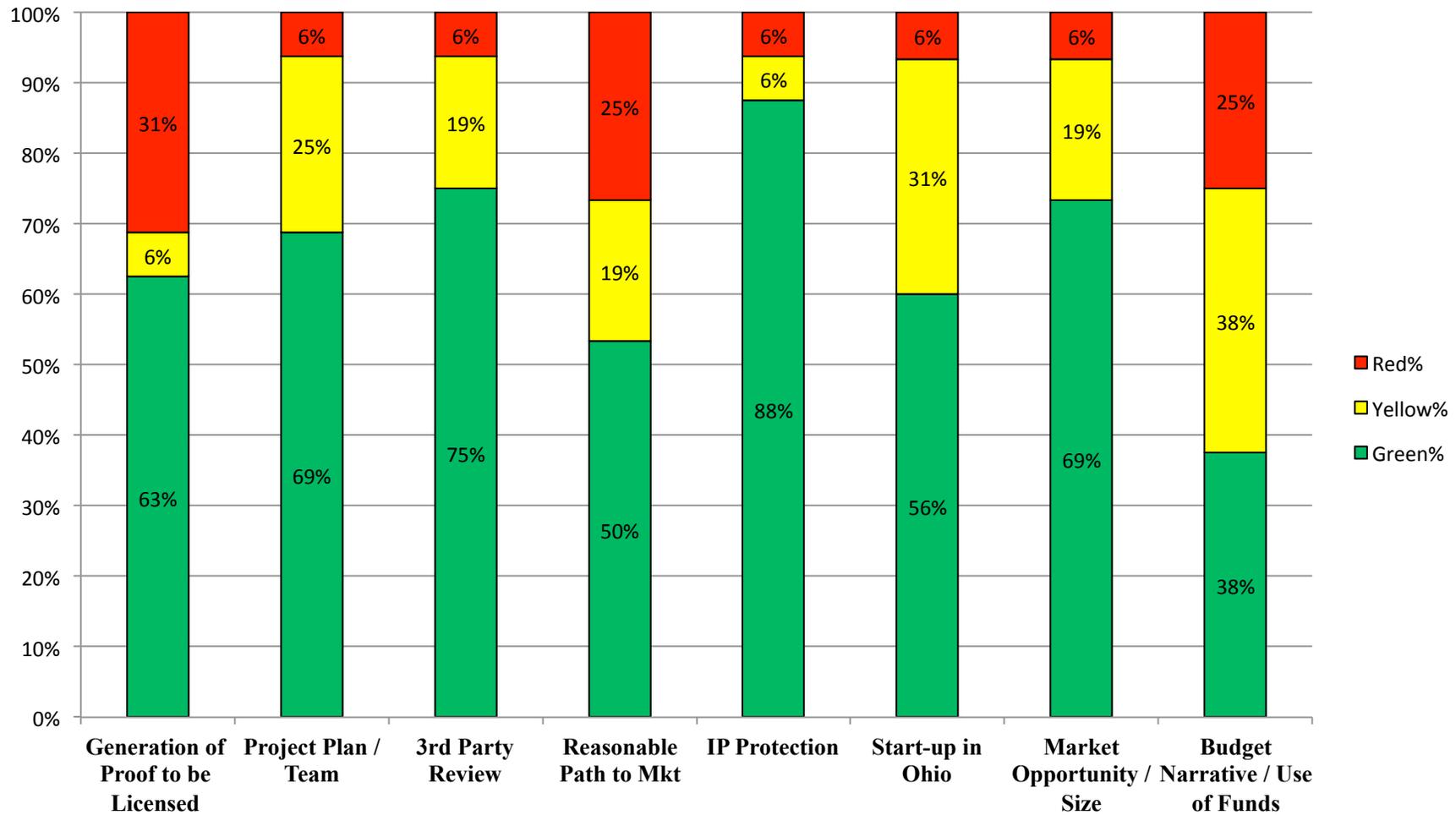
- Round 11 Results: Applications by Institution



Trends

Round 11

Phase 1 Category Ratings



Phase 1 Proposals Recommended for Funding

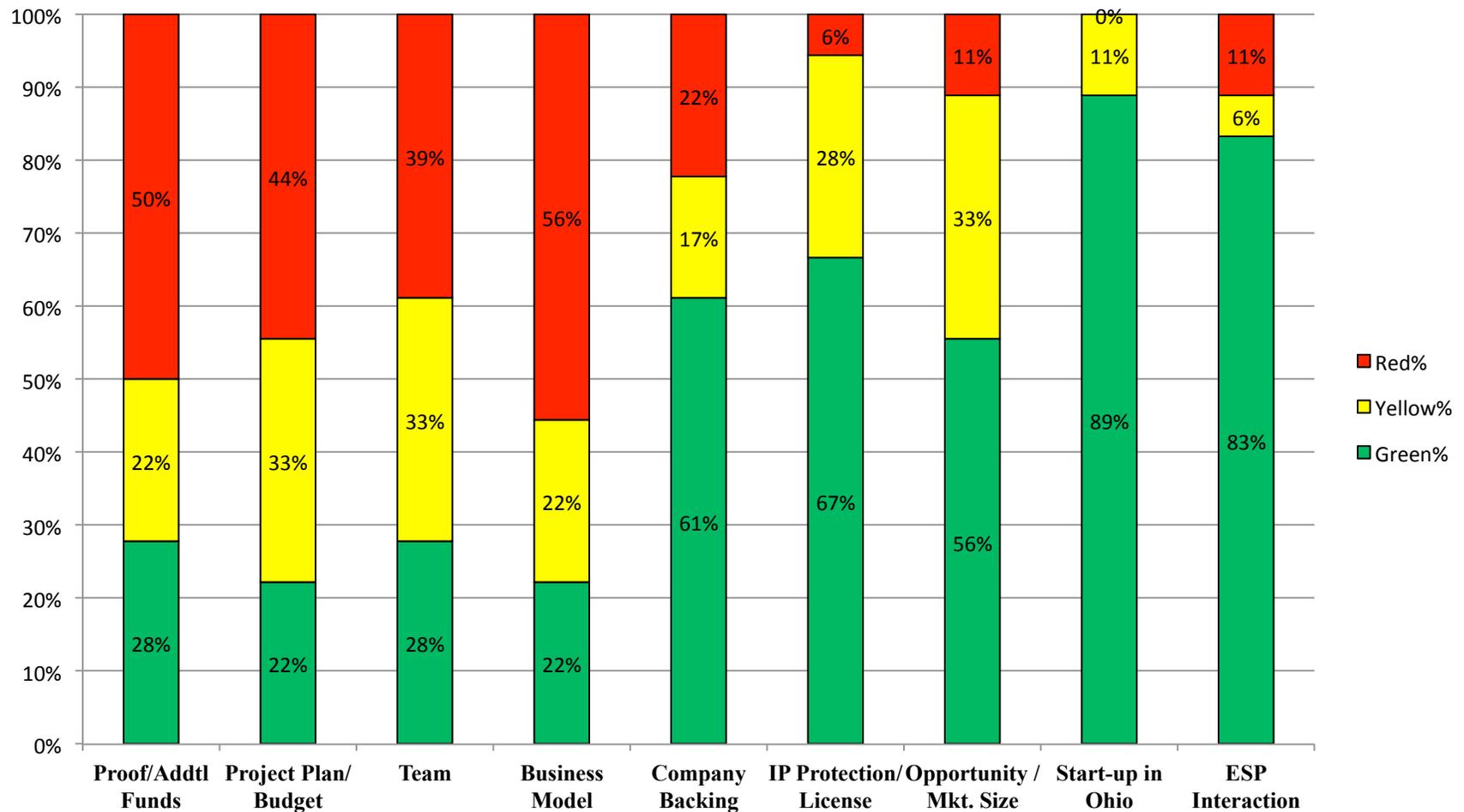
Round 11

Proposal #	Lead Applicant	Title	State Funds Requested	Total Budget	Recommend
16-458	Case Western	NeuroRadVision	\$50,000	\$100,000	\$50,000
16-459	Case Western	Development of a Vascular Catheter Injection Port Sterilizer	\$49,158	\$98,316	\$49,158
16-460	Ohio State	A Revolutionary Approach for Correction of Presbyopia	\$50,000	\$100,000	\$50,000
16-464	Ohio State	Ultrasonic Device and Method for Treating Composites	\$50,000	\$100,000	\$50,000
16-467	University of Akron	A Smartphone-based Dual-modality Microendoscope for Cancer Diagnosis	\$50,000	\$100,000	\$50,000
16-468	University of Cincinnati	Novel Therapy for High-Grade Gliomas	\$50,000	\$100,000	\$50,000
16-469	University Hospitals Case Med Ctr	Endo-Sleeve Accessory Medical Device Introduction Apparatus for Endoscopes	\$40,000	\$80,000	\$40,000
16-470	University of Toledo	Scratch and UV Resistant, Light Weight Parts for Automotive Application and Window Glazing	\$50,000	\$100,000	\$50,000
16-471	University of Toledo	Bi-Level Equalizer for Battery Management Systems	\$50,000	\$100,000	\$50,000

Trends

Round 11

Phase 2 Category Ratings



Phase 2 Proposals Recommended for Funding

Round 11

Proposal #	Licensing Institution	Lead Applicant	Proposal Title	State Funds Requested	Total Project Budget	Recommended	Capital Raised to Date	Time to Market	Additional Capital to Market
16-480	OSU	ALCI Innovations	ALCI Glass Cleaner	\$100,000	\$100,000	\$100,000	\$22,000	1 yr	\$0
16-481	OSU	EnergyEne	Plant Guayule Seed and Design Develop Defoliator	\$100,000	\$100,000	\$100,000	\$357,000	1 yr	\$260,000
16-482	OSU	Creatively Alive	MassMatrix	\$150,000	\$200,000	\$150,000	\$150,000	6 mo	\$0
16-484	OSU	Neurxstem	Commercializing a Neural Organoid Platform to Investigate CNS Disorders	\$150,000	\$150,000	\$150,000	\$100,000	1yr	\$0
16-487	UHCMC	The Ureteral Stent Company	The Ureteral Stent	\$150,000	\$150,000	\$150,000	\$250,000	2 yr	\$1.75 MM
16-489	Toledo	IntelliSenze	Development of Biosensor for Diagnosis of Infection	\$150,000	\$150,000	\$150,000	\$50,000	2.5 yr	\$10 MM

Resubmission and Carry Through

Round 11

■ Resubmission

- *Eleven of thirty four (32%) proposals are resubmissions*
 - Seven of those eleven (64%) are Recommended for Funding
- *Phase 1*
 - Six of sixteen (38%) Phase 1 proposals are resubmissions
 - Four of those six (67%) are Recommended for Funding
- *Phase 2*
 - Five of eighteen (28%) Phase 2 proposals are resubmissions
 - Three of those five (60%) are Recommended for Funding

■ Carry Through

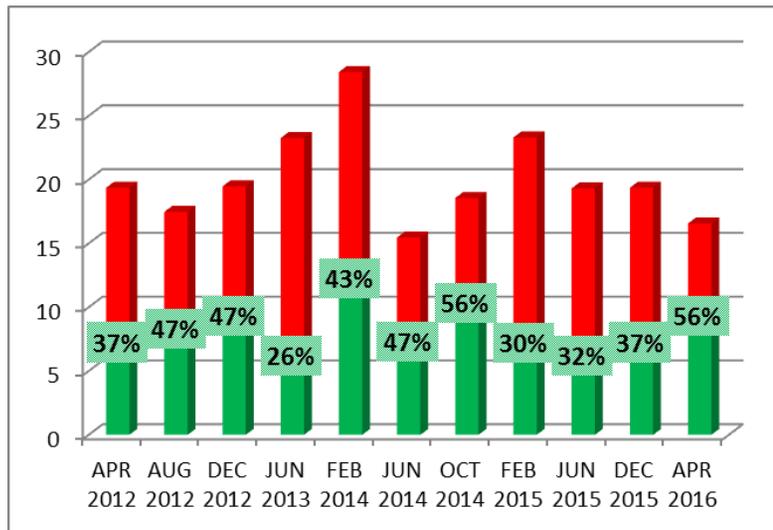
- *Two of eighteen (11%) Phase 2 proposals were previous Phase 1 awardees*
 - One is Recommended (50%) for Funding in this round.

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Comparative Results (all rounds to date)

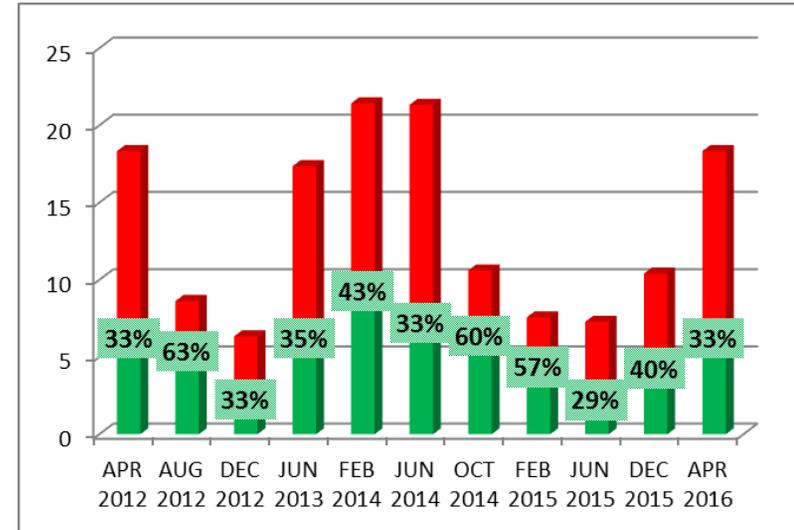
Rounds 1 – 11 Results

Phase 1 Applications



41% Cumulative Approval

Phase 2 Applications

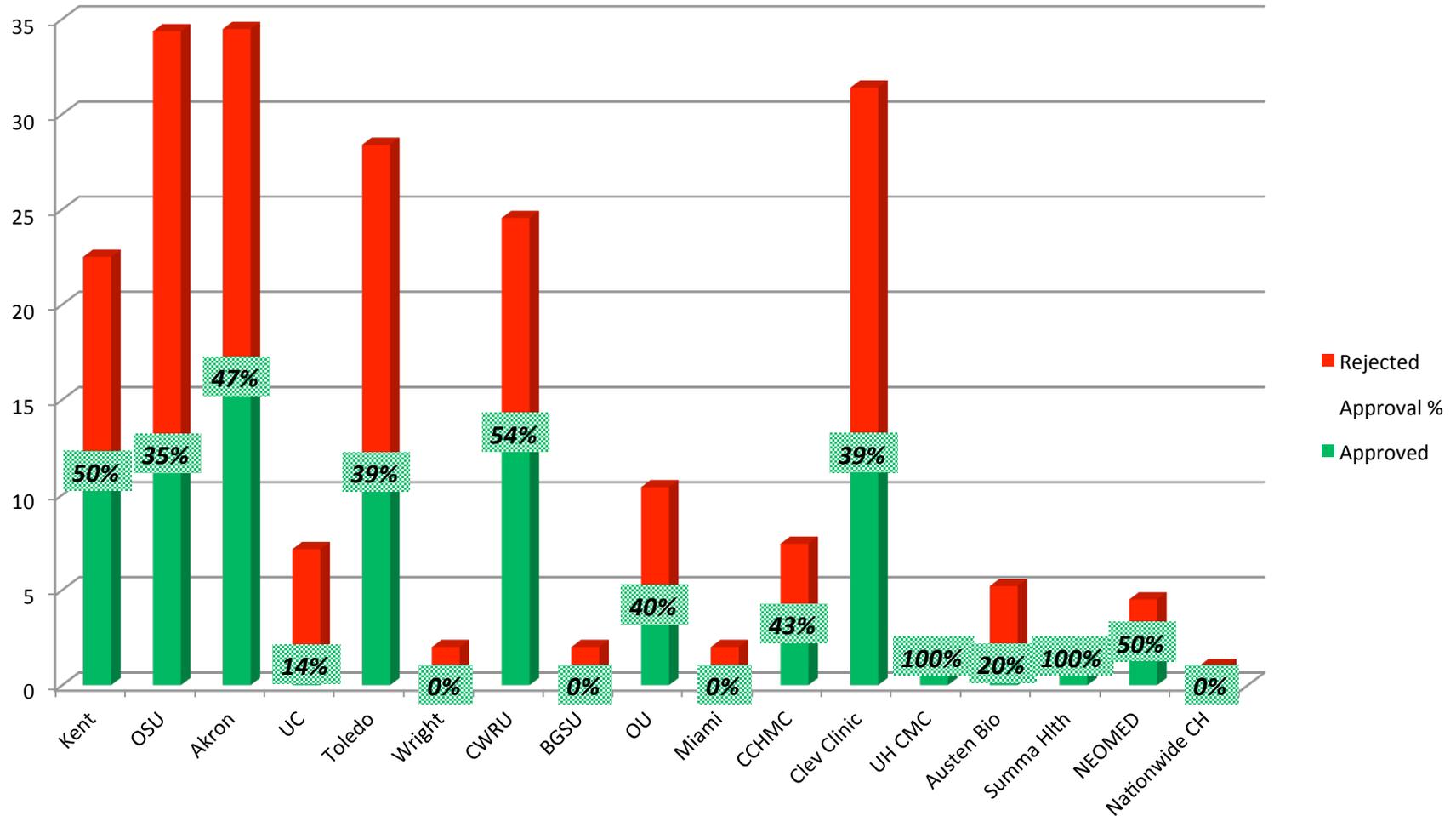


43% Cumulative Approval

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Cumulative Results – Phase 1 (all rounds to date)

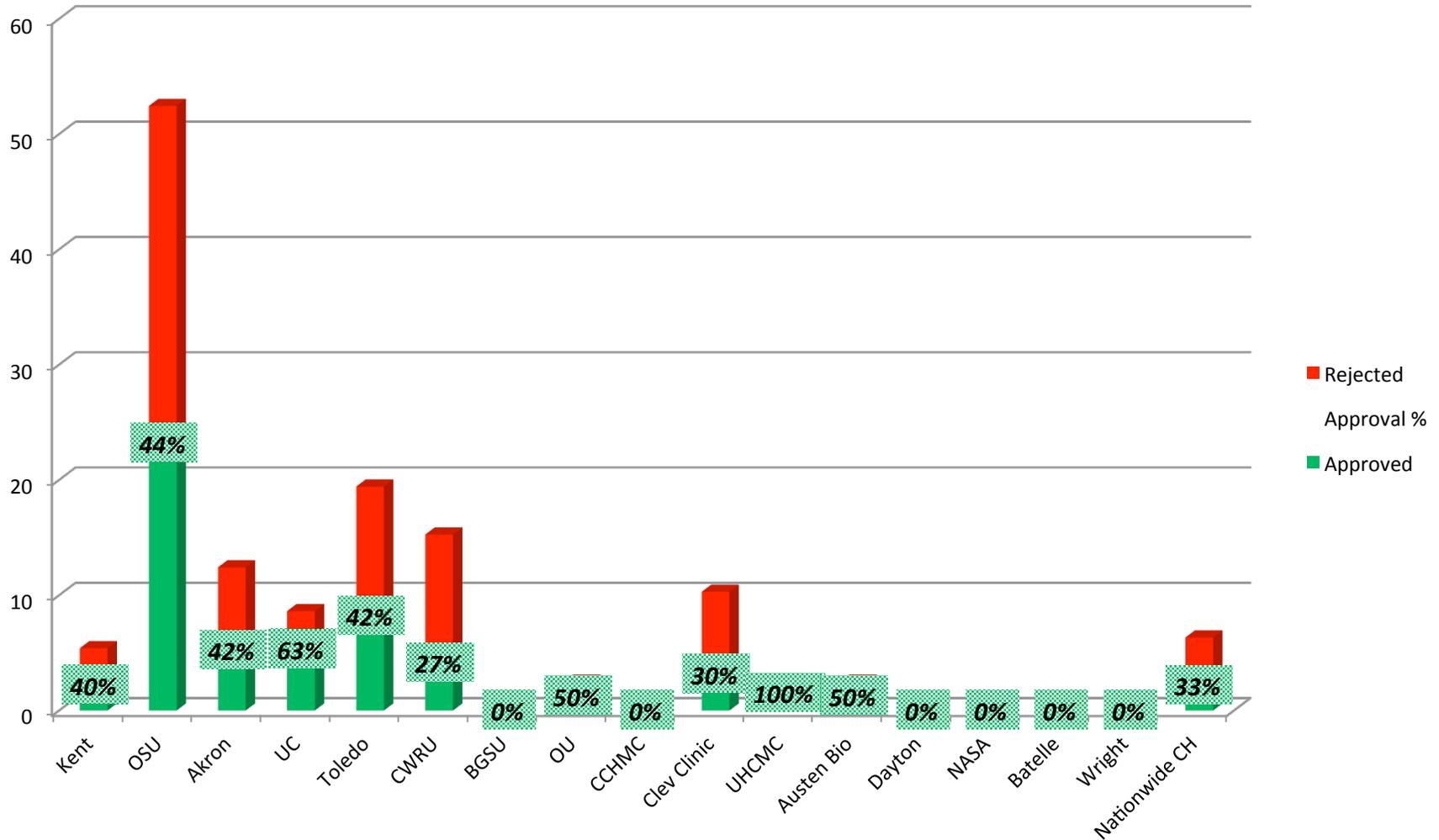
Phase 1 Approved /Rejected by Institution



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Cumulative Results – Phase 2 (all rounds to date)

Phase 2 Approved/Rejected by Institution



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Commercial Acceleration Loan Fund (CALF)

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Commercial Acceleration Loan Fund Funding Request

Complion Inc. (Cuyahoga County)

- Loan Amount: \$1,000,000
- Project Amount: \$1,500,000
- Total Jobs Committed:
New 15 Retained 10

Third-party Evaluator:
Fred Richards, Rolling Antiquities

Rating	Category
Green	Market, Industry and Competition
Green	Technology/Product
Light Green	Intellectual Property
Green	Commercialization - Sales, Marketing and Revenue Model
Light Green	Legal
Green	Ohio Impact
Green	Management Team
Light Green	Financial Summary
Light Green	Capitalization
Green	Evaluator Recommendation

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