

# A Platform of Innovation: Poised for Growth

## 2007 Ohio Venture Capital Report



**CENTER FOR ENTREPRENEURSHIP**



**FISHER**  
COLLEGE OF BUSINESS



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# Fisher College of Business Center for Entrepreneurship

The Center for Entrepreneurship at the Fisher College of Business manages the Venture Capital Research Program in collaboration with the contributing state and regional partners listed below. The objective of the collaborative program is to track total venture capital investment activity, with an emphasis on the earlier stages, and to tell the true story of Ohio's growing and exciting investment opportunity.

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Entrepreneurship is a key factor in turning Ohio's economy around. In many respects, Ohio's future economic prosperity will be built around new ideas, new products and new processes that capitalize on our state's existing assets and leverage global opportunities. That's why Ohio is dedicated to helping early-stage businesses by expanding access to capital, thus improving the commercial viability of their generation of products and services.

Just some of the ways that dedication has manifested itself into action include:

- Third Frontier pre-seed funds — through which for every dollar the state has invested, \$43 have been leveraged for investment in Ohio companies;
- Ohio's Technology Investment Tax Credit — which has helped almost 400 companies and provided an incentive for more than 2,000 Ohio high net worth ("Angel") investors to invest into these Ohio emerging companies and;
- The Ohio Capital Fund — which was created to attract venture capital dollars to Ohio companies. The Ohio Capital Fund has committed investment of nearly \$100 million in 17 venture capital funds all of whom have agreed to invest in Ohio early stage companies. This has already resulted in these funds along with co-investors investing over \$130 million into 17 Ohio Companies.

What is truly exciting to see is that Ohio's commitment to emerging business is paying off. Just consider the many aspects of good news contained in the following pages.

- The amount of venture capital invested in the state is up 65% over last year for a total of \$536 million.
- The number of unique companies receiving venture capital investment is 170, up from 151 a year before.
- Of those 170 companies, 88 received funding for the first time and the funding for those 88 companies alone totaled \$155 million.

These are just some of the ways in which Ohio is proving to be the perfect choice to establish and grow a business.

— Lee Fisher, Lt. Governor

# Executive Summary

Total venture capital investment in Ohio's fastest growing technology companies reached \$536 million in 2007, ranking Ohio 13th in total state-wide investment in the US.

More than \$155 million in seed and early-stage funding was invested in 88 companies who received angel or venture capital funding for the first time. Ohio's technology-based entrepreneurial community appears poised for tremendous growth in the next five years. Even with shifting economic cycles, the compound average annual rate of growth in total venture capital investment in Ohio since 2003 is greater than 25%, surpassing \$1.5 billion in cumulative total investment in the last four years. Given that a majority of new companies will require significant follow-on funding to support future growth and development, continued significant increases in venture capital investment will be required to maintain Ohio's momentum.

Ohio's venture development community is riding what many refer to as the first wave of a new era in technology company formation resulting from several key public and private initiatives launched in the last five years. These initiatives are accelerating the rate of new firm formation and attracting national attention to Ohio's budding "**entrepreneurial class.**" Last year, 38 companies received a total of \$143 million in early-stage funding alone. That represents an increase of more than 90% from the total level of early-stage investment in 2006 and the largest annual percentage increase since 1999.

Additionally, the average size of early-stage investments increased significantly to \$3.88 million, which was up 110% from \$1.84 million in 2006. This rapid increase is directly attributable to a number of dynamics that have come to define Ohio's "entrepreneurial class." These include:

- the increased flow of early risk capital to the most promising seed-stage deals by the state's organized angel groups (*angels invested \$51 million in 55 seed and early-stage deals in 2007*)
- the rapid increase in investments in Ohio's bioscience and healthcare industry (*bioscience represents 62% of the total venture capital investment in 2007*)
- the increase in the amount of venture funds flowing into Ohio from non-Ohio venture capital firms driving up valuations (*non-Ohio venture firms invested \$352 million in 2007, which is more than 80% higher than in 2006*).

Regional, national and international venture firms alike are increasingly attracted to many of Ohio's rapidly growing industry sectors as well as Ohio's commitment to minimizing the risk and improving the reward for investing in the state's nascent technology companies. The following report profiles the State's 2007 venture capital investment activity and highlights the unique opportunities and challenges ahead.

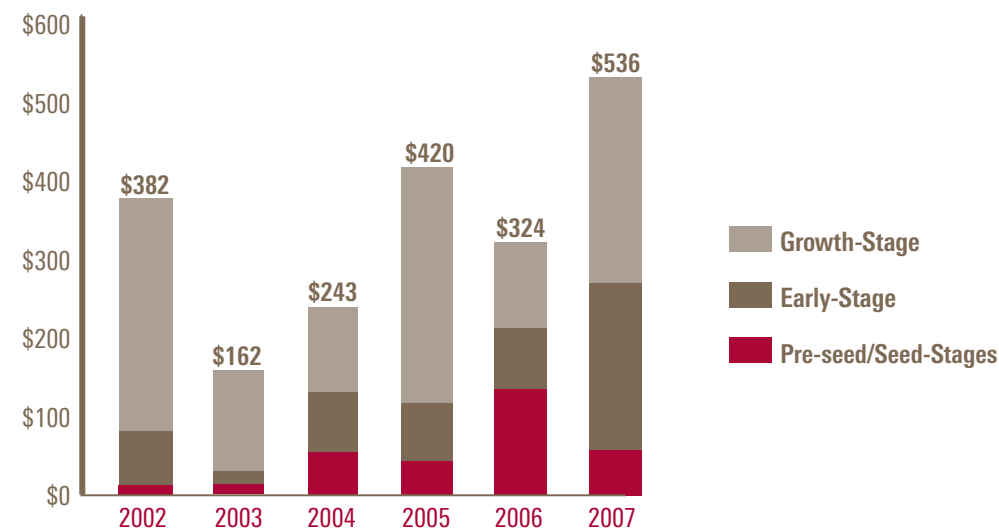
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Center for Entrepreneurship  
Fisher College of Business  
The Ohio State University

# 2007 Ohio Venture Capital Activity

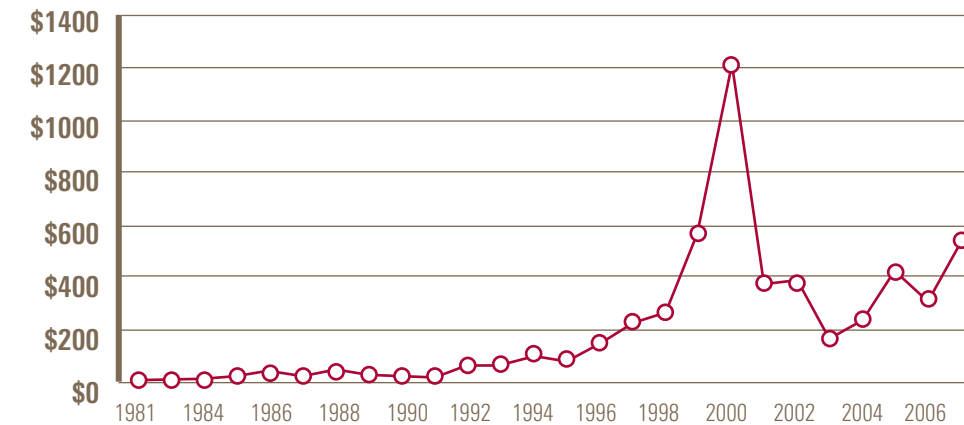
## Key Findings

The total venture capital investment in Ohio in 2007 was \$536 million which marks a significant 66% increase over the total investment in 2006 of \$325 million (Figure No. 1). This is the largest level of investment in Ohio since 2000 and marks a significant increase in the growth trajectory since the industry's recovery began in 2003 (Figure No.2). While a portion of the increase in 2007 was due to a few relatively large deals, the climate for venture investing in Ohio is arguably stronger than it has been since the height of the dot com era with total annual investments nearly equaling 1999 levels and surpassing \$1.5 billion in cumulative investment in the last four years.

**Figure No.1**  
Total Venture Capital Investment by Stage by Year (in millions)



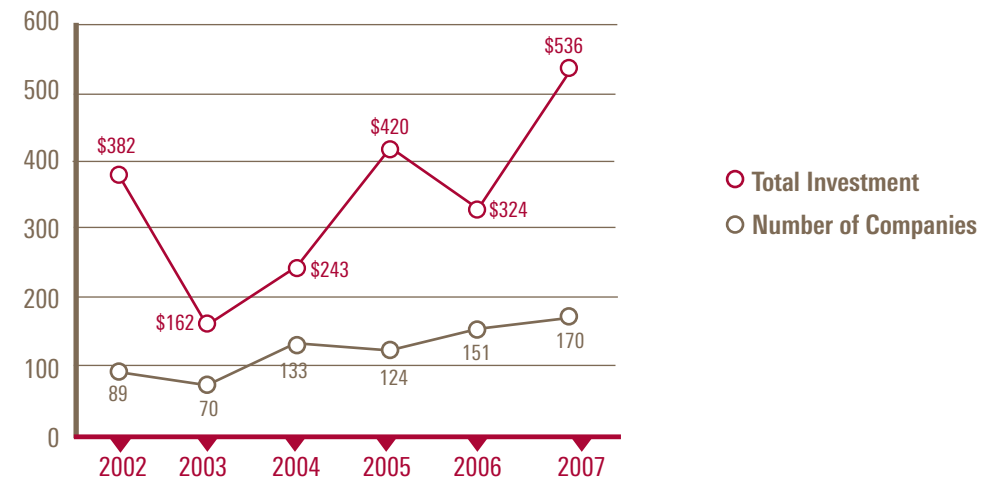
**Figure No.2**  
Total Venture Capital Investment by Year (1981–2007) (in millions)



Since 2004, the compounded average annual rate of growth in venture capital investment in Ohio has exceeded 25%. A total of 170 companies received funding in 2007, which represents a 12.6% increase over 2006 when 151 companies were funded (Figure No. 3).

A total of 108 companies (up from 99 in 2006) accounted for \$57 million in pre-seed and seed-stage funding in 2007 (Figure No. 4). Approximately 38 companies received a total of \$143 million in early-stage funding, which represents an increase of more than 90% from the total level of early-stage investment in 2006 and the largest annual percentage increase since 1999. Investments in 24 growth and later-stage companies topped \$263 million in 2007, a 140% increase over the \$109 million invested in 2006.

**Figure No. 3**  
Total Investment (in millions) and Number of Companies Receiving Funding (2002 – 2007)



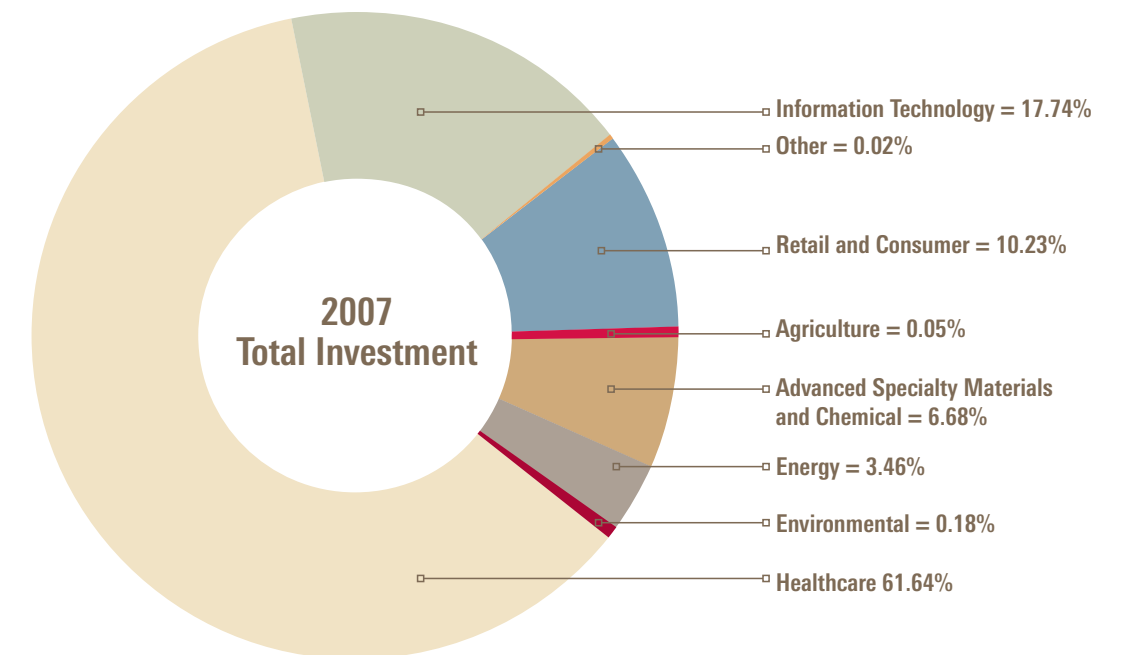
**Figure No. 4**  
Total Investment by Stage by Year (in millions)



As in 2006, Ohio's burgeoning bioscience/healthcare industry received the largest share of total investments in 2007. Investments in bioscience/healthcare deals totaled more than \$285 million for 55 companies, which is nearly 62% of the total venture capital investment (Figure No. 5). Cumulatively, 200 of Ohio's bioscience/healthcare companies have received nearly \$700 million in venture capital investment since 2004 (Table No.1).

The Information technology (IT) sector accounted for the second largest level of venture funding in 2007; 51 companies shared more than \$82 million, up from 40 companies and less than \$46 million in 2006. Thirty percent of the companies receiving funding in 2007 were IT companies. The retail and consumer sector (i.e., products and services) was third with slightly more than \$47 million for 28 companies. The energy sector received a small percentage of total investment but showed a dramatic increase of investment versus 2006.

**Figure No.5**  
Percent of Total Investment in 2007 by Industry (excludes Skybus)



As in years past, angel investors were active in the pre-seed and seed-stage deals in 2007, investing approximately \$51 million in 55 companies. However, Ohio is also an attractive place for national venture capital firms. Investments in Ohio companies by venture capital firms headquartered outside of Ohio amounted to approximately \$352 million, which represents an increase of 81% over 2006 and a greater than 3:1 ratio when compared to 2007's \$111 million invested by Ohio-based venture capital firms.

**Table No.1**  
**Total Funding Received by Year by Industry (in millions – excludes Skybus)**

	Advanced Specialty Materials and Chemicals	Agriculture	Energy	Environment	Bioscience/Healthcare	Information Technology	Other	Retail and Consumer	GRAND TOTAL
<b>2004</b>	17.83		12.43		69.37	82.34	28.57	28.99	<b>\$239.54</b>
<b>2005</b>	7.20		0.08		201.07	164.67	39.23	4.78	<b>\$417.03</b>
<b>2006</b>	17.96		0.25		141.02	45.70	16.91	20.13	<b>\$241.97</b>
<b>2007</b>	30.95	0.25	16.04	0.84	285.71	82.21	0.10	47.42	<b>\$463.53</b>
<b>Total</b>	73.95	0.25	28.79	0.84	697.18	374.92	84.81	101.32	<b>1,362.06</b>

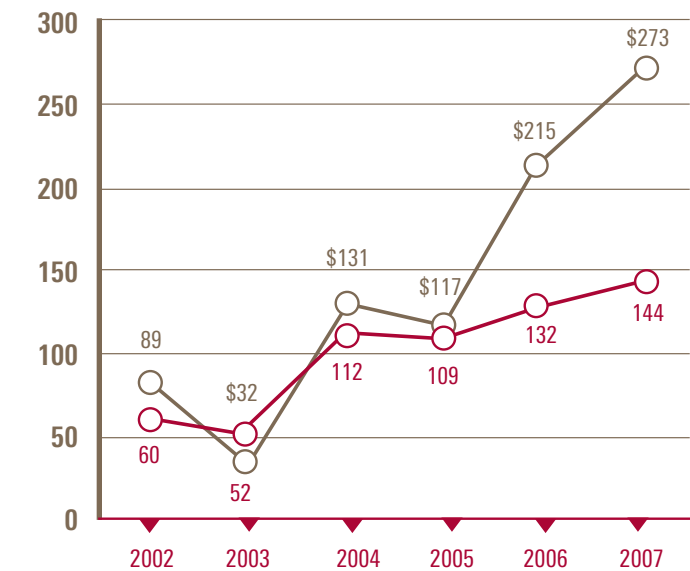
## Trends in Seed and Early-Stage

The health of a state's technology-based economy can, to a significant extent, be determined by the degree to which it nurtures its most promising technology ventures. The level of pre-seed, seed and early-stage funding is, therefore, particularly indicative of the future viability of Ohio's investment in the most promising emerging technologies. Between 2004 and 2007, the compounded average annual rate of growth in seed and early-stage investment in Ohio was more than 16%.

In 2007, 144 Ohio companies received pre-seed, seed and early-stage funding of \$273 million, an increase of 27% over 2006 (Figure No.6). Skybus, in an unusually large investment for Ohio, accounted for \$82 million in seed funding in 2006 and \$73 million in early-stage funding in 2007. If we remove the Skybus investment due to its unusual size and type, the total pre-seed, seed and early-stage funding was \$133 million in 2006 and \$200 million in 2007, representing a more than 50% increase (Figure 7).

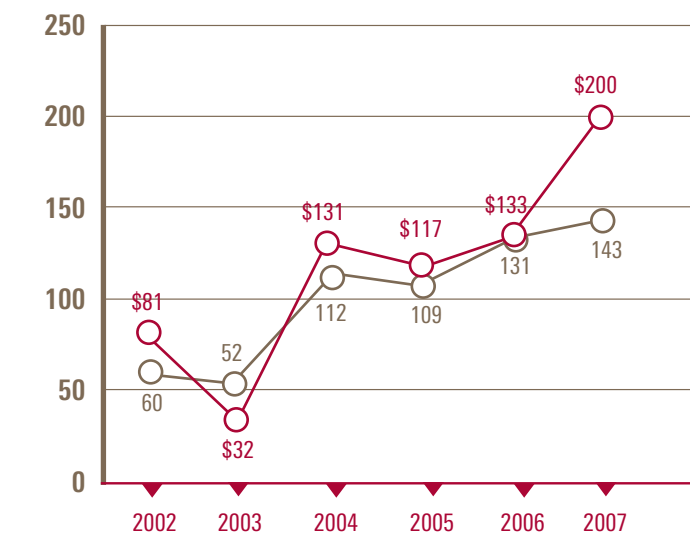
**Figure No.6**  
**Total Seed and Early-Stage Investments (in millions – with Skybus)**

○ Number of Companies  
 ○ Total Investment



**Figure No.7**  
**Total Seed and Early-Stage Investment (in millions – without Skybus)**

○ Number of Companies  
 ○ Total Investment



## Ohio's Seed and Early-Stage Ventures

Of the 143 seed and early-stage companies, 75% received pre-seed and seed funding of \$57 million, while 25% received early-stage funding of \$143 million. **Perhaps most notable was that the average size of the early-stage investments increased significantly to \$3.88 million, up 110% from \$1.84 million in 2006.**

A number of factors are contributing to the dramatic increase in average deal size for early-stage investments in 2007. First, the increase is partly attributable to the level of investment scrutiny and the increased flow of early risk capital to the most promising seed-stage deals by the state's organized angel groups and the general improvement in the state's business development infrastructure for early-stage technology ventures.

Second, bioscience/healthcare companies are accounting for a greater proportion of total venture capital investments in 2007. As depicted in Figure No. 5, bioscience/healthcare represents almost 62% of total venture capital investment in 2007, up 7% from 2006. This is particularly important since the average deal size for bioscience /healthcare companies in 2007 was \$5.36 million, which is 38% higher than the average of \$3.88 million for all investments independent of industry sector.

Finally, as deal quality increases in Ohio, the increased level of competition for the better deals drives up valuations. As noted above, the level of venture funds flowing into Ohio deals from non-Ohio venture capital firms is three times greater than the amount invested by Ohio funds. The increasing flow is critical considering the significant amount of follow-on funding the growing number of seed and early-stage companies are going to need over the next five to seven years. However, if the out-of-state investments are made too early in the venture process or if out-of-state venture funds lead the earlier rounds, Ohio has a greater risk of losing those companies (and their technologies and management teams) if and when they are required to relocate to be in closer proximity to the out-of-state lead investor.

## Venture Capital Imports

The early-stage investment is perhaps the most crucial stage for Ohio venture funds to command. Of the 34 early-stage deals completed in 2007 for which we know the origination of the lead investor, 13, or 38%, were financed by only one venture firm (Table No. 2).

Not surprisingly, an Ohio investor was involved in nearly 80% of the syndicated investments. The 12 companies financed by a non-Ohio venture capital firm acting independently or leading a syndicate represented 32% of Ohio's early-stage companies.

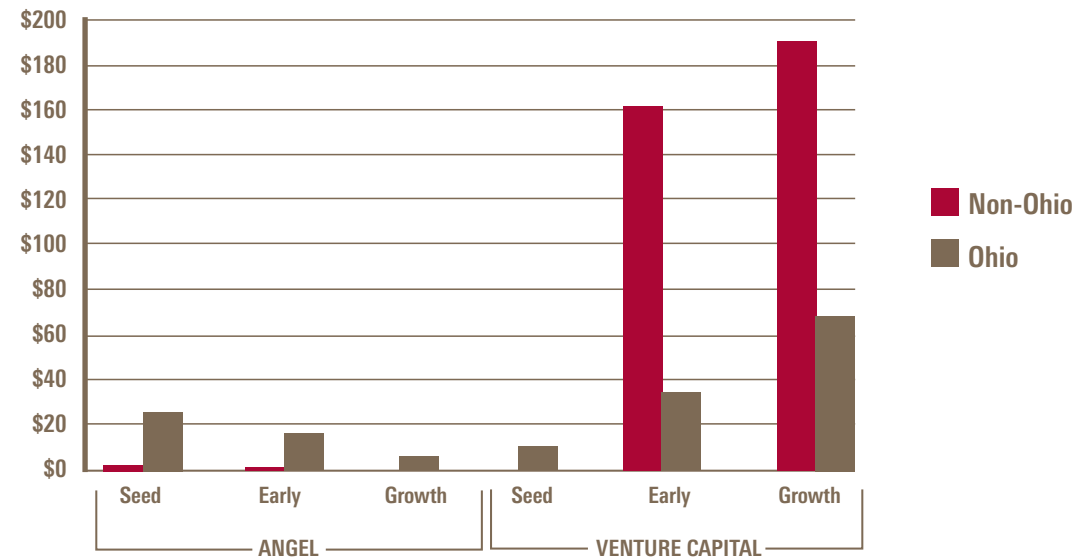
**Table No.2**  
**2007 Venture Capital Investment in Early-Stage Deals in Ohio**

	Number of Early-Stage Deals	% of Early-Stage Deals	Ohio Lead Deals	Non-Ohio Lead Deals
<b>Total No. of Early Stage Deals</b>	<b>34</b>	<b>100%</b>	<b>20</b>	<b>12</b>
Non-Syndicate Deals	13	38%	7	6
Syndicate - Single Region	21	62%	12	4
Syndicate - Mixed Regions	3	9%	1	2
Syndicate - Unknown Lead	2	6%	NA	NA

Ohio represents an exciting, albeit emerging, technology region. There is a strong investment in research and development in key industry sectors and a corresponding increase in seed and early-stage investment in the startup companies emerging from those investments. As such, Ohio must import a significant percentage of its risk capital to ensure adequate capital is available and accessible for the larger follow-on funding requirements as those seed investments mature (Figure No. 8).

But what is the proper percentage of out-of-state versus in-state venture capital? Even California imports approximately 55% of its total venture capital flow, while Massachusetts imports about 62% and Texas almost 67%. Ohio, meanwhile, imports approximately 75% of its annual venture capital flow, and most of Ohio's imported venture capital originates in the Northeast.

**Figure No. 8**  
**In-State and Out-of-State Angel and Venture Capital Investment**  
**by Stage (in millions)**



Most of the out-of-state venture capital is funneling to later-stage investments (Figure No. 8). This suggests that out-of-state venture capital firms are primarily and generally interested in the economic returns derived from later-stage investments that have tracked well in Ohio. Otherwise, emphasis on early-stage deals reflects a more competitive maneuver to lure emerging technologies and sound management teams from Ohio in key investment sectors.

## Future Demand

Venture communities need access to outside capital in support of their growing enterprises. But what are Ohio's needs for follow on funding to support its burgeoning number of quality seed-stage deals? **Based on the data collected at the regional level across the state between 2004 and 2007, the minimum required follow-on funding approximates \$2.7 billion through 2016** to keep the seed-stage deal flow active and to ensure the availability and accessibility of follow on funding needed to fuel the surviving firms to exit (Table No 3).

**Table No.3**  
**Future Projected Demand for Follow-On Venture Funding in Ohio (in millions)**

STAGE	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total		
										FIRMS	\$ M	
Seed	\$590,000 per company per year									645	\$ 381	
Early	\$3 million per company per year									323	\$ 968	
Growth	\$8.6 million per company per year									161	\$1,385	
												<b>\$2,773</b>

The assumptions underlying Table 3 are that the number of seed-stage deals are expected to increase conservatively at 6% per year for the five year period projected. Average seed-stage deal size is calculated for 2008 as the average of the last four years (2004-2007). That value is conservatively expected to increase 5% per year for the next four years in the seed-stage projections. This results in approximately 650 investments totaling about \$380 million in the next five years at the seed-stage.

To determine the amount of follow-on funding required to carry just the projected seed-stage deals completed from 2008 to 2014, the model assumes each firm will stay two years at each stage of investment and that there will be a 50% attrition rate between stages. The average investment per company in the early and growth stages were calculated in the same manner as that of the seed-stage. Finally, the model conservatively assumes no new firms will enter into the early and growth that have not first been funded at the

seed-stage. Thus, early-stage deals in the model include only the 50% of seed-stage deals that transition forward every two years, and all govt-stage deals consist of the 50% of early-stage deals that transition forward every two years.

Under these assumptions, it is clear that Table 3 provides a very conservative estimate of the level of follow-on funding required to carry the seed-stage investments that survive the full development process through to exit. The chart indicates that Ohio needs to be thinking conservatively about how to activate and channel as much as \$2.7 billion just to launch and support the surviving seed-level ventures for the next 10 years. The point is simple. **For every \$1 invested in seed-stage ventures, Ohio's venture community must be prepared and committed to provide approximately \$7 more in follow-on funding.**

The total venture capital investment in the US has increased from \$19.8 billion in 2003 to \$29.8 billion in 2007, or slightly more than 50%. During this same time frame, total venture capital investment in Ohio increased from \$162 million in 2003 to \$536 million in 2007, or slightly more than 230%. Thus, Ohio's share of the total national venture capital investment more than doubled during this period of rapid growth, going from 0.82% in 2003 to 1.79% in 2007.

Perhaps the best view into the near-term future for Ohio venture capital investing is whether or not the state is realizing any gains in its share of the total national investment in the hottest industry sectors, bioscience/healthcare and information technology. Bioscience/healthcare is the fastest growing sector for total venture capital investment in the US, increasing more than 70% from \$5.5 billion in 2003 to \$9.5 billion in 2007. Most importantly, Ohio's share of that rapidly growing investment space has increased from a mere .67% share (\$37 million) in 2003 to slightly more than 3.0% (\$285 million) in 2007. **Thus, Ohio's share of the national bioscience/healthcare venture investment has increased nearly 350% in the same time frame.**

Though somewhat less dramatic, the story is similar in the information technology space. Total venture capital investment in IT, the largest investment sector in the nation, increased approximately 25% from \$11.8 billion in 2003 to \$14.7 billion in 2007. Ohio's share of the growing IT investment space, however, has increased 12% from .5% share (\$59 million) in 2003 to .56% (\$82 million) in 2007. Ohio's bioscience/healthcare and IT industries are leading the way in making Ohio's technology ventures increasingly attractive to the national venture capital community.

## Regional Highlights

This is an exciting time for Ohio. Venture capital investment in the State increased dramatically in 2007. The growth in seed and early-stage activity can be traced back to specific initiatives the State of Ohio has put in place to promote company formation to build Ohio's next generation economy. The following pages highlight the key strengths of the major regions of the State contributing to the new era of Ohio technology venture formation

# Southeast Ohio

## Adena Ventures



### Angel Funds and Venture Capital Firms

**ACEnet**  
www.acenetworks.org

**Adena Ventures**  
www.adenaventures.com

**Athenian Venture Partners**  
www.athenianvp.com

**Ohio Appalachian  
Development Fund**  
www.coadinc.org

Southeast Ohio's transition from extractive industries (coal, iron, timber) and manufacturing to a knowledge economy has been slow and characterized by intermittent progress. Historically, the region has lagged behind the rest of the state in measures including employment, income, health, education and infrastructure. Its lack of venture capital investment has been even more pronounced.

Over the last four years, however, the region has made significant new investments in infrastructure. New investors have darkened the region's door where none had previously. Emerging anchor companies are becoming role models, of and catalysts, for early-stage venture investment. These new resources and others like the state-funded Appalachian New Economy Partnership (ANEP) and Entrepreneurial Signature Program (ESP), offer Southeast Ohio the momentum to propel a wave of innovation and early-stage investment in the future. Some highlights include:

- Information Technology (IT) – The region is home to an emerging cluster of interactive digital technologies in education, corporate training, entertainment and sports. The most notable among these is Ed Map, Inc. in Nelsonville. Ed Map provides educational logistics software and services to higher education and K-12 institutions. Adena Ventures, a \$34 million early-stage fund based in Athens, led a \$2 million Series around 2004 with co-investors OCA Ventures from Chicago and SJF Ventures from North Carolina. Ed Map has since grown to \$35 million in sales and profitability. In 2007, Adena and its co-investors completed a small follow-on investment in Ed Map of \$700,000.
- Catalyzed in part by Adena's 2002 investment in Emergent Game Technologies (formerly known as Butterfly.net), Shawnee State University and others founded the Shawnee Gaming Conference in 2003. Now in its sixth year, the Shawnee Conference has spurred new gaming degrees at several of the region's universities and community colleges. The talent produced by these programs can represent a new generation of technology entrepreneurs.
- Bioscience – Although there is not yet a cluster of venture-backed bioscience companies in Southeast Ohio, one anchor company and two research and incubation institutions are generating unprecedented activity for the region and are reasons to expect future seed and early-stage investment opportunities.
- Diagnostic Hybrids, Inc. (DHI) was founded in 1983 in Athens to develop, manufacture and market cellular and molecular diagnostic kits for a wide range of diseases. In 2004, DHI raised \$10 million from Summit Partners, one of the world's largest venture funds. In 2004 and 2005, Inc. Magazine named DHI one of the 500 Fastest Growing Companies in America. Today, DHI is the world's largest cell culture provider, employs 220 people, and is the anchor company for southeast Ohio biomedical innovation.
- Edison Biotechnology Institute (EBI) – Since the late 1990's, EBI, Athens and the surrounding community have made significant investments addressing endocrine disorders, particularly obesity and diabetes, which are disproportionately prevalent in the region. More than \$30 million has been invested in basic research, treatment capacity, commercialization infrastructure, and the recruitment of world-renowned talent like Dr. Leonard Kohn. Those investments are beginning to create an emerging industry cluster. EBI research has generated 30 patents, 28 patents pending, 13 invention disclosures, more royalty revenue (2006) than any other public university in Ohio and 8 new companies. Several of the companies are pre-seed funding candidates and expected to attract early stage venture investment within the next 24 months.
- The Ohio State University – South Centers (OSU-South) in Piketon, OH is an important regional innovation partner with expertise in bio-agriculture research and development. In 2007, the U.S. Department of Commerce Economic Development Administration awarded the OSU Endeavor Center (the business incubator and training center housed and managed by OSU-South) with its Excellence in Rural Economic Development Award. In 2007, the Center operated at full capacity with more than 20 tenant companies employing more than 100 people (80% of which were new positions created in 2007). In its brief history, the Endeavor Center has graduated two client companies already and expects more to follow representing deal flow for the region's early stage investors.
- In 2006 the Ohio Department of Development awarded TechGrowth Ohio, a regional coalition led by Ohio University's Voinovich School of Leadership and Public Affairs, a \$10 million Entrepreneurial Signature Program (ESP) grant. With \$5 million of local match, this initiative establishes a \$3 million pre-seed fund, a \$2 million angel fund (East Central Ohio TechAngel Fund, ECOTAF) and \$10 million for operational assistance that will transition emerging companies to the region's early-stage investment opportunities.

# Central Ohio TechColumbus



Central Ohio continues to see growth in its Innovation Capital activities, which include angel and venture capital investments. For 2007, the total investment dollars in Central Ohio of \$168 million were up nearly 33% versus \$126 million in 2006. Since 2004, it has experienced an almost 16% compounded annual growth rate (CAGR) despite 2005's investment drop off. In 2007, investments were made in 43 separate companies, above 2004's 38. A substantial piece of this increase was in the targeted pre-seed and seed stages, laying the foundation for future investment activities in the area.

### Angel Funds and Venture Capital Firms

**CID Capital**  
[www.cidequity.com/pages/index.asp](http://www.cidequity.com/pages/index.asp)

**Custer Capital**  
[www.custercapital.com/home.asp](http://www.custercapital.com/home.asp)

**Microcom**  
[www.microcomcorp.com/contact.htm](http://www.microcomcorp.com/contact.htm)

**Nationwide Mutual Capital**  
[www.nationwide.com/about-us/mutual-capital.jsp](http://www.nationwide.com/about-us/mutual-capital.jsp)

**NCT Ventures**  
[www.nctventures.com](http://www.nctventures.com)

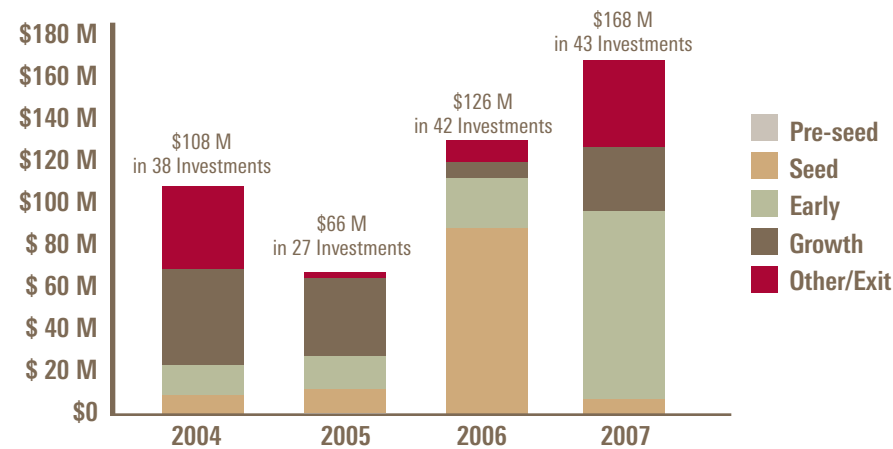
**Ohio Capital Fund**  
[www.theohiocapitalfund.com](http://www.theohiocapitalfund.com)

**Ohio TechAngel Fund**  
[www.ohiotechangels.com](http://www.ohiotechangels.com)

**Reservoir Venture Partners**  
[www.reservoirvp.com](http://www.reservoirvp.com)

**Talisman Capital**  
[www.talismanetworks.com/partners.php](http://www.talismanetworks.com/partners.php)

**TechColumbus**  
[www.techcolumbus.org](http://www.techcolumbus.org)



### Pre-Seed and Seed-Stage Investments

In 2007, pre-seed investments rose to \$400K, up from 2006's \$180K, and up almost 8% CAGR since 2004 due to the TechColumbus managed Entrepreneurial Signature Program (ESP), which is designed to help validate commercial ideas and bridge the funding gaps at this stage.

Seed investments in 2007 fell to about \$11 million from \$94 million in 2006 (from \$12 million if excluding Skybus), though still above 2004's \$8 million (\$5 million if excluding Skybus). The average investment per deal (excluding Skybus) dropped from \$708K in 2006 to \$680K in 2007 due in part to the growth of angel activity in Central Ohio, especially through the Ohio TechAngels (OTAF), which was formed in 2004. Between 2005 and 2007, OTAF Fund I and its co-investing members accounted for almost 14% of all seed-stage investments (excluding Skybus). The investments in Skybus Airlines, Inc., the now defunct passenger airline based in Columbus, may be backed out for certain analyses, as the dollars were sizeable and significantly skew the data.

### Early-Stage Investments

Early-stage investments rose from almost \$24 million in 2006 to \$92 million in 2007, with an 87% since 2004. Backing out the effects of Skybus, early-stage investments dropped from almost \$24 million in 2006 to a little over \$19 million in 2007.

### Growth Stage and Other/Exit Investments

In 2007, total investments made in Growth Stage companies increased to almost \$30 million, up from \$7 million in 2006, though still below 2004's and 2005's \$46 million and \$37 million, respectively. The average size of the investments in this stage grew from almost \$6 million in 2004 to almost \$8 million in 2007.

### Market Focus

Investments in the Retail & Consumer sector still accounted for almost 65% of 2007's total investments (due to the unusually large investment in Skybus). However, this is down from 2004's 75%. The growth has been in the Healthcare and Information Technology sectors. Healthcare investments have grown at over 135% since 2004 to almost \$35 million in 2007. Likewise, Information Technology investments have grown at a 31% CAGR since 2004, hitting almost \$23 million in 2007.

### Angel Investors

Angel investors continue to play an important investment role in Central Ohio. In 2007, investments by angels were over \$16 million, down from a high of \$21 million in 2006, though significantly up from 2004's and 2005' \$9 million and \$5 million, respectively. These angel investors accounted for almost 10% of total investments in Central Ohio in 2007, up from 8% in 2004. The vast majority of these angel investors (84%) were Central Ohio based. By contrast, in 2004, only 12% of the angel investors in Central Ohio companies were from Central Ohio, and only 27% were from Ohio in total – the rest were from outside of Ohio.

### Investments Originating From Outside Of Ohio

As Central Ohio continues to bolster its entrepreneurial environment, additional sources of capital will be needed. In 2007, \$22 million, or almost 13% of total investments, was funded by Central Ohio-based angels and venture capital companies, which is up significantly from 2004's comparable \$6 million or 6%. However, the "imported" capital is still a critical source of funds. In 2007, capital coming into Central Ohio hit \$146 million, up from \$102 million in 2006. For every \$1.00 of Central Ohio originated investments in 2007, \$6.60 was drawn into Central Ohio.

# Northwest

## Regional Growth Partnership



### Angel Funds and Venture Capital Firms

**CoreNetwork**  
www.core-network.org

**Rocket Ventures**  
www.rocketventures.org

Northwest Ohio is now accelerating the commercialization of technology-based companies through its universities, the Regional Growth Partnership (including Rocket Ventures) and the various resource providers within the 18-county footprint of Northwest Ohio.

The University of Toledo, for example, under the leadership of Dr. Lloyd Jacobs, has made great strides in moving forward in translating research into commercialization. This was augmented by the 2006 merger of The University of Toledo with the Medical University of Ohio. Additionally, this drive toward commercialization at the University has been strengthened by the first operating early-stage venture capital fund in Northwest Ohio Rocket Ventures (part of the Regional Growth Partnership (RGP) and partially funded by the Third Frontier's ESP Program).

Rocket Ventures, officially launched in August of 2007, has reached out to over 1,500 individuals in Northwest Ohio with over 150 public presentations and events in an effort to merchandise the early-stage venture fund. Since start-up, Rocket Ventures has been approached by some 140 start-up companies, has made early-stage investments and is now working to launch over 20 tech-based companies.

The University of Toledo, Bowling Green State University and the RGP have focused on targeted technology areas within Northwest Ohio, including, biosciences, alternative energy, advanced manufacturing, IT, advanced materials and instrumentation, controls and electronics (aligned with the region's manufacturing base). Specific areas of excellence include solar energy, bio-pharma and medical devices and advanced optical electronics and sensing technologies. Year-to-date, the Rocket Ventures profile of technology companies includes:

- 31% from biosciences,
- 22% from instrumentation, controls and electronics,
- 15% from alternative energy,
- 15% from IT,
- 12% from advanced materials,
- 5% from other technologies.

Recently, Rocket Ventures has seen increasing deal flow opportunities coming from the biosciences and alternative energy applications, including solar and biofuels. Northwest Ohio's solar industry focus includes First Solar Corporation, which held the enviable position of having the highest performing stock on Wall Street in 2007. Moreover, First Solar employs some 600 people in a suburb of Toledo, and is expecting sales revenues approaching \$1 billion in 2008, largely to Europe.

Additionally, Xunlight Corporation (a thin-film photo-voltaic solar manufacturer and spin-off from the University of Toledo) has already received some \$30 million in venture capital from two rounds of financing. Both of these success stories result from extensive research conducted at the University of Toledo and supported by state and federal grants originating from the University of Toledo's research faculty. As these solar companies continue to prosper and garner more venture capital, increased opportunities exist for start-ups servicing these manufacturers, thereby creating the potential emergence of a solar-based infrastructure in Northwest Ohio.

As the result of the merger of the University of Toledo and the Medical University of Ohio, the new UT Health Sciences Campus is now emphasizing more licensing of these technologies to start-up bioscience companies within and outside the university. In fact, two independent university tech transfer sources have ranked the University of Toledo nationally among the top 10 universities in licensing technology. Bio-Pharma, bio-IT and medical device companies represent the majority of the bioscience new venture creation opportunities.

One particular bioscience start-up which has just received over \$2.3 million in venture capital (including Rocket Ventures) is focused on the Alzheimer drug space. Significant drug development at the University of Toledo has been funded by the National Institutes of Health (NIH) - including the National Institute on Aging (NIA). Pre-clinical results have indicated symptomatic improvement over currently approved drugs. This company, Mithridion, Inc., is a recently merged start-up – with drug research coming from the University of Toledo and a business infrastructure based in Madison, Wisconsin.

## Southwest CincyTech



### Angel Funds and Venture Capital Firms

**American Financial Corp.**  
[www.afginc.com](http://www.afginc.com)

**Blue Chip Validation Fund**  
[www.bcvc.com/index.lasso](http://www.bcvc.com/index.lasso)

**Blue Chip Venture Company**  
[www.bcvc.com/index.lasso](http://www.bcvc.com/index.lasso)

**C-Cap**  
[www.c-cap.net](http://www.c-cap.net)

**Charter Life Sciences**  
[www.charterls.com](http://www.charterls.com)

**CincyTech**  
[www.cincytechusa.com](http://www.cincytechusa.com)

**Fort Washington Capital  
Partners Group**  
[www.fortwashington.com](http://www.fortwashington.com)

**Isabella Capital**  
[www.fundisabella.com](http://www.fundisabella.com)

**The Legend Partners**  
[www.thelegendpartners.com](http://www.thelegendpartners.com)

**Miami Valley Venture Fund**  
[www.mvva.org](http://www.mvva.org)

**NCIC Capital Fund**  
[www.ncicfund.org](http://www.ncicfund.org)

**Queen City Angels**  
[www.qca.com/about.html](http://www.qca.com/about.html)

**River Cities Capital Funds**  
[www.rccf.com](http://www.rccf.com)

**Senmed Medical Ventures**  
[www.senmed.com](http://www.senmed.com)

**Triathlon Medical Venture  
Partners**  
[www.tmvpc.com](http://www.tmvpc.com)

With the formation of the Southwest Ohio Pre-Seed Fund in 2006, CincyTech has set out to positively impact the entrepreneurial environment of the seven major counties in southwest Ohio surrounding Cincinnati.

Through investment in early formation companies, CincyTech and partner organizations in southwestern Ohio are committed to aggressively improving the amount of invested human and monetary capital to advance economic growth. Some of the regional highlights include:

- **Bioscience:** Akebia Therapeutics, which is pioneering ischemia and vascular biology drug technologies, initially targeting anemia and peripheral artery disease, raised a \$14.9 million A round of investment in spring 2008. Akebia's seed round was led by Triathlon Medical Ventures and included CincyTech and Blue Chip Venture Company. Fort Washington Capital partners completed a number of follow on investments in late 2007 including Earthstone International, Exagen Diagnostics, Laboratory Partners, and Lumidigm. River Cities Capital Fund has made recent investments in Atlanta based EndoChoice Inc. and Akron-based OrthoHelix Surgical Designs Inc. Triathlon Medical Ventures also made recent investments in Tolera Therapeutics, CoLucid Pharmaceuticals Inc., and Celleration Inc.
- **Information Technology:** Fort Washington Capital Partners completed two new direct investments, Arsys Internet and BCE. It also participated in a number of follow on investments including OnTech Operations, CoMet Solutions and Bluefire Technology Solutions. Queen City Angels participated in a number of seed round investments in the IT space in late 2007 including ConfigureTech, BidMyCrib, TPG and HOPS Technology, which is developing process improvement software. River Cities Capital Fund made a capital investment in NineSigma Inc, which was spawned out of Procter & Gamble's development program.
- **Exits:** Renal Solution and BeliefNet, both Blue Chip Venture Company investments were sold to Freenius and Fox Entertainment Group, respectively. The two exits accounted for roughly \$200 million. In 2007, Blue Chip had 5 exits for a total of \$59 million. On Target Media and Marketing was sold to Calterton for \$210 million, providing a 112% IRR. Viacell, another Fund Isabella company, was sold to PerkinElmer in late 2007. Rubicon Technology, which makes high quality optic

wafers completed a public offering in November 2007. Rubicon was a River Cities Capital Fund portfolio company. River Cities Capital Fund had 4 exits in 2007 for a total of \$40 million.

- **Funds Raised:** Athenian Venture Partners announced that their AVP Ohio Technology LP I will invest solely in Ohio companies in early 2008. Blue Chip Ventures is currently in the process of closing its most recent fund, with expectations that the fund will close in the vicinity of \$100 million (Blue Chip V). Blue Chip Venture Company is currently investing out of its \$190 million Fund IV, which has approximately \$30 million remaining. River Cities Capital Fund is currently investing out of its \$120 million Fund IV, which has approximately \$91 million available for investment (as of June 20, 2008). Queen City Angels is currently investing out of their QCA First Fund and QCA First Fund II with a combined capital of \$3 million. Triathlon Medical ventures, another premier Cincinnati fund, has over \$90 million under management.

The goals for CincyTech's Seed Fund I and organization for its third year of operations include 18 portfolio companies, \$4.8 million in seed funding, \$12 million in overall venture capital investment, and 142 jobs with a total payroll of \$8.52 million for southwest companies. As of June 2008, CincyTech investments in southwestern Ohio since late 2007 have resulted in over \$35 million in total venture capital investment. In the six portfolio companies invested, the seed round investments totaled over \$6.8 million from CincyTech and syndicate partners. Investment in Southwestern Ohio from CincyTech and syndicate partners has resulted in 50.3 jobs created (as of June 30, 2008). Blue Chip Venture Company completed 21 deals for \$10 million in 2007 and has completed 13 deals for \$21 million in 2008, River Cities Capital Fund completed 2 investments in 2007 for a total of \$2 million and has completed 5 deals thus far in 2008 for \$22 million. Queen City Angels has invested in numerous deals thus far in 2008 totaling \$750,000.

# Northeast

## Jumpstart, Inc.



### Angel Funds and Venture Capital Firms

**Akron ARCHAngel Network**  
www.akronarchangels.com/  
acorn.php

**Bridge Investment Fund**  
www.bridgefundllc.com

**C&T Access Ventures**  
www.accessventures.com

**Chrysalis Ventures**  
www.chrysalisventures.com

**Cleveland Clinic Innovations**  
www.clevelandclinic.org/  
innovations

**Cleveland-Cliffs Iron Co. Pension Fund**  
www.cleveland-cliffs.com

**Crystal Internet Venture Fund, L.P.**  
www.crystalventure.com

**Crystal Ventures**  
www.crystalventure.com

**Danville Partners, LLC**  
www.danvillepartners.com

**Draper Triangle Ventures**  
www.drapertriangle.com

**Early Stage Partners**  
www.esplp.com

**Everstream**  
www.ccur.com/products\_  
ev\_main.aspx

**Fairport Asset Management**  
www.fairportasset.com

**Frantz Medical Ventures**  
www.frantzgroup.com/fmv/  
index.html

**Glengary Ventures**  
www.glengaryventures.com

**iNetworks**  
www.inetworksllc.com

In 2006, a group of Northeast Ohio investors determined that their region would need to generate and attract over \$1.2 billion in venture capital from 2007-2011 in order to meet the capital needs of Northeast Ohio companies. In the first year of this aggressive five-year plan, Northeast Ohio has made significant progress toward reaching this goal. With \$318 million in new investments, the region both surpassed its goals for 2007 and doubled over the prior year. The region also experienced a healthy number of investments, reaching 71 in 2007. Some highlights include:

- Bioscience, comprised of biopharmaceuticals, medical devices, healthcare services and IT, was the most noteworthy sector, totalling 75 percent of the capital raised. In particular, biopharmaceuticals accounted for just over 50 percent of all capital investment for the region. Deal size for this sector was exceptionally large, averaging \$15.4 million. Significant wins for companies such as Athersys (\$70 million), Franklin & Seidelman (\$25 million), and Ricerca, contributed to much of the total. Other average industry-sector deal sizes ranged from \$1 to \$7 million.
- Information Technology (IT) remained a strong sector in 2007. When all IT-related companies, both bio and non-bio-related, are viewed in combination they comprise 39 percent of all investment dollars since 2004. In aggregate, deal flow outside the biosciences has more than doubled since 2004.
- While most industry sectors saw growth in the number of deals, the fastest growing sector in number of deals was Advanced Materials. Since 2004, the number of deals in this sector has more than tripled.
- By stage, investments in early and growth-stage companies have more than doubled since 2006 and, as a result of the support of Ohio's Third Frontier Program and the activities of venture development firms, angels and risk-friendly investors, the seed-stage has remained stable. Among numerous significant growth investments, one to highlight is that of Ricerca. This financing is representative of the high concentration and successes of the region's bioscience companies. Based in Concord, Ohio, Ricerca provides preclinical contract drug discovery and development services to biotechnology and pharmaceutical companies around the world. Because of strong customer relationships and a broad set of services, the company has experienced rapid growth. Ricerca's

**Invacare Corporation**  
www.invacare.com

**JumpStart, Inc.**  
www.jumpstartinc.org

**Lorain County Community College Innovation Fund**  
www.lorainccc.edu

**MCM Capital Partners, LP**  
www.mcmcapital.com

**Morgenthaler Ventures**  
www.morgenthaler.com

**Mutual Capital Partners**  
www.mutualcapitalpartners.com

**North Coast Angel Fund**  
www.northcoastangelfund.com

**Ohio Innovation Fund**  
www.oifventures.com

**Peppertree Capital Management**  
http://www.peppertreefund.com

**Primus Capital Funds**  
www.primuscapital.com

**Rexon**  
www.raxon.com

**Riverside Capital Microcap Fund**  
www.riversidecompany.com

**RiverVest Ventures**  
www.rivervest.com

**Roulston Ventures**  
www.williamscapital.com

**SunBridge Partners**  
www.sunbridgepartners.com

**Zapis Capital Group LLC**  
www.zapiscapital.com

300-person team provides the full range of chemistry and biology services required to move from intellectual property to IND submission with the capability to support product development to the point of commercial product launch. In 2007, the company announced a \$50 million growth financing (equity and debt) led by Bain Capital, SV Life Sciences of San Francisco and Cowen Healthcare of New York. The company is using the funds to expand its operations and keep up with the growing demand.

- There was no lack of successful exits in 2007, with two of the most significant being the exits of MemberHealth, acquired by Universal American Financial Corp. for \$630 million, and Hyland Software acquired by Thoma Cressey Bravo for \$266 million.
- An increasing number of venture capital funds are supplementing the existing regional venture funds by making investments in Northeast Ohio companies and opening offices here. Since 2004, almost 70 investors from outside the region have invested in Northeast Ohio companies. In 2007, three investment firms opened offices in Northeast Ohio: iNetworks, LLC of Pennsylvania, Radius Venture Partners of New York, and RiverVest Venture Partners of Missouri. Thirty venture firms made their first investment in a Northeast Ohio based company in 2007.

With 2007's strong performance, Northeast Ohio companies have now raised \$856 million in venture and private equity investments since 2004. These numbers speak to the growth of Northeast Ohio's venture community and show great promise for the future.

# West Central Dayton Development Coalition



Angel Funds and  
Venture Capital Firms  
Dayton Development  
Coalition  
[www.daytonregion.com](http://www.daytonregion.com)

In 2007 the Dayton region, as part of its overall strategic goals of providing investment capital to support the economic growth of the region, was awarded an Entrepreneurship Signature Program grant by the State. This award for \$6 million of capital investment dollars along with a \$7.5 million private investor match, continues to provide venture capital support as a follow on to the two other funds (Miami Valley Venture Funds) currently under management by the General Partner, Dayton Development Coalition. This brings the total funding to \$76.5 million in both early and later-growth funding for companies in the Dayton Region since 1994.

## **Miami Valley Venture Funds( Growth-Stage Investing)**

Miami Valley Venture Fund I started in 1994 with \$38 million under management. It is in the final year with liquidation of the portfolio anticipated at the end of 2008. The fund had four company exits in 2007, leaving few substantive investments remaining in the portfolio. Miami Valley Venture Fund II started in 2001 with \$25 million under management. It is fully invested but made a number of follow-on investments in 2007 amounting to \$550 thousand. MVVF II has made eighteen investments over the past six years.

One of the more successful ones is M21 Industries a custom store fixture manufacturer and marketer located in an industrial section of Dayton. MVVF II initially invested in 2003, during a difficult period with flat sales of less than \$3 million, loss operations, and a declining retail environment. MVVFII lead a local investment consortium, joined the board of the company and assisted in restructuring the bank debt and helped redirect the company's strategic planning and operations. In 2007, revenues grew to over \$13 million; the company is highly profitable and employs over 100 permanent employees. It now has a well diversified customer base with a promising future.

## **Entrepreneurial Signature Fund (Pre-Seed Fund Investing)**

The ESP grant from the State of Ohio's Third Frontier Program, angels, and institutional investors provided \$13.5 million in pre-seed funding for investment opportunities in advanced material technologies. In 2007, the fund made two initial investments of \$450 thousand in two advanced materials companies with cross cutting products in Aerospace and Human Sciences.

## Fisher College of Business

Since 1916, Fisher College of Business at The Ohio State University has produced exceptional leaders who meet the challenges of a changing global business environment through creative and effective solutions. In 1993, the college received a gift from alumnus Max. M. Fisher, a leading industrialist, philanthropist and public servant. Mr. Fisher's desire to see his alma mater become one of the premier management institutions in the country spearheaded the construction of a state-of-the-art, six-building campus. In recognition of his commitment, the college was named the Max M. Fisher College of Business.

Since then, the college has undergone a corporate turnaround; narrowing the focus of its programs, recruiting leading faculty, placing a renewed emphasis on experiential learning, and offering a wide range of international study options. Faculty and staff have also established new scholarship and fellowship opportunities, strengthened their commitment to diversity, and created innovative academic and corporate partnerships. As a result, Fisher's international reputation continues to rise and is reflected in rankings which place the college among the top business schools in the nation at both the undergraduate and graduate levels.

## Center for Entrepreneurship

Launched in November 2001, the Center for Entrepreneurship supports academic research, education and community engagement in entrepreneurship. The Center strives to advance both the science and practice of entrepreneurship so as to stimulate economic growth and development through new company formation, technology commercialization, and improved competitive performance of entrepreneurial ventures. The center is a leader in the development and dissemination of entrepreneurship theory and practice that will impact a global economy and stimulate economic growth by assisting new company formation and graduating students who possess strong entrepreneurial skills and experiences. Some of the compelling program offerings are the Technology Entrepreneurship and Commercialization Initiative and the Venture Capital Research Program.

Fisher College of Business  
Center of Entrepreneurship  
[www.fisher.osu.edu](http://www.fisher.osu.edu)

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