This first annual Ohio VentureReport is dedicated to David T. Morgenthaler. An active and successful businessman and venture investor for over sixty years, he also was a remarkably effective leader of the national venture community. He founded Morgenthaler Ventures in Cleveland in 1968 after a several decade career of building young growth companies. The last of these was Foseco Inc. which he built in Cleveland with backing from the venture capital firm of J.H. Whitney & Co.

Over the years, Morgenthaler Ventures has invested in over 300 technology companies all across the US. Several are still public like Apple Computer, MicroChip, and Synopsys. Others were acquired such as the firm’s incredibly successful investment in MDSI in Ann Arbor, Michigan which returned 100 times invested capital when, after going public in 1976, it was acquired in 1981 by Schlumberger. David served as Chairman of the Board of MDSI.

In addition, David Morgenthaler’s efforts contributed to forming the National Venture Capital Association, to lowering the capital gains tax rate in 1978 from 49% to 28%, and to changing the federal pension law in 1979 to permit pension funds to invest in venture capital. All three achievements remain in effect to this day. Without David’s leadership, venture investing in the United States might well have been significantly less productive and achieved less job and wealth creation.

In recognition of his success as a pioneering venture investor who started his venture investing in Ohio and as an influential formative leader of the U.S. venture capital community, VentureOhio awarded David Morgenthaler its first Lifetime Achievement Award in September 2014 and will henceforth designate the award in his name.
Fast Facts

**Investments:**
- $69 million invested across all venture investment stages
- $41 million invested in life sciences, including healthcare IT, 59% of the total
- $19 million invested in information technology, 27% of the total
- 129 companies received 156 investments
  - 82 seed/start up stage
  - 57 early stage

**Investors:**
- 48 investors responded
- 36 headquartered in Ohio
- 113 investment professionals employed by Ohio HQ investors
- 34 investors made 156 investments in Ohio companies

**Ecosystem:**
- Over $61.7 million in recent Ohio Third Frontier grants intended to create more new companies
- Accelerators, incubators, and Entrepreneurial Signature Programs in all regions
- Robust angel networks, including three ranked in the top 4% nationally

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I. The Data

Ohio Data 2013

Introduction

Venture capital is the lifeblood of Ohio’s growing entrepreneurial companies. At the seed and start-up stages, capital from angel and other early investors helps entrepreneurs launch new companies and supports the development and initial commercialization of their products and services. As companies begin to generate revenue, venture capital firms provide the early stage investment that supports accelerated commercialization efforts. Once the business model and sales process are fully developed and revenues approach $5 million, additional venture capital firms provide the growth stage capital that enables companies to achieve sustained profitability and an initial public offering or another successful exit for all stakeholders. If this chain of investing is broken, a company may wither on the vine or depart from Ohio to a more welcoming investment climate.

This section presents data on venture investments in entrepreneurial Ohio businesses during 2013. The data was provided by 48 investors, 36 of which are headquartered in Ohio. Because it is the first annual look into venture investing in Ohio, it is necessarily a single snapshot of ongoing activity.

Future Ohio VentureReports will permit comparisons with this baseline and provide the foundation for refined insights into the challenges and opportunities facing venture investing in the state.

Based on the experience of investment reports developed by regional organizations within the state, VentureOhio believes that this data is more complete than the Ohio data included in published national databases. Ohio venture investing in the national context will be the topic of future annual reports.

The following data tells Ohio’s 2013 story.

“The following data tells Ohio’s 2013 story.”
In 2013, 34 investors reported that they put $69,245,585 to work in Ohio entrepreneurial businesses. As shown in the chart below, the life sciences sector received more than half of this funding ($41 million), with Information Technology receiving the next largest portion ($19 million).

### Investment Totals by Sector

- **IT**: $20M
- **Life Sciences**: $40M
- **Advanced Materials**: $60M
- **Alternative Energy**: $80M
- **Other**: $5M

### Number of Investments by Sector

- **IT**: 82
- **Life Sciences**: 57
- **Advanced Materials & Manufacturing**: 24
- **Other**: 11
- **Alternative Energy**: 3

Most reported investments were made in the beginning stages of a company’s development, i.e., seed/start-up and early. 82 investments were reported in the seed/start-up stage and 57 in the early stage.

The concentration of investments in the seed/start-up phase is largely the result of the financial support provided to the seed and start-up investor community by Ohio Third Frontier program. In the past two years alone, that program has awarded over $63.7 million to 18 organizations that make seed and start-up investments in Ohio. As a result of state-supported capital formation, Ohio has a large and rapidly growing number of companies approaching the stage at which venture capital firms invest – more of these companies, we believe, than in any other state in the region. These companies will use the early stage capital they receive from venture investors to accelerate their growth by adding key executives and other skilled employees and by accessing outsourced resources such as marketing and IT development resources.

The following four charts provide further information on investing activity in the IT and life sciences sectors.
Ohio’s venture investors are active at all stages of entrepreneurial company building. Respondents to our survey include 18 who invest in companies at the seed/start-up stage, twelve who follow with early-stage investments, and six who identify themselves as focusing on the growth stage. These categories are not rigid; many investors will make follow-on investments in a portfolio company as it moves to later stages of its development. Some investors will occasionally make an initial investment at a stage other than the one that is their primary focus. This may be done because of special knowledge of the business or because of the opportunity to co-invest with others with whom they have a special relationship. All of these factors make any categorization of investment stage somewhat approximate, rather than definite.
A key question for Ohio’s seed/start up and early stage companies and their investors is: where will they find the capital to fund continued growth? At any given time, an active venture investor has funds available for further investing, both to make follow-on investments in portfolio companies that they have already backed and to make investments in new companies. The balance between these two purposes is not fixed and will vary over the life of an investment fund. For example, in the early years of a venture capital fund, a large portion of its capital will be available for new investments. As the fund ages, a greater percentage will be devoted to follow-on investments in existing portfolio companies. Toward the end of a fund’s life (typically after the 5th year), no funds will be available for investments in new companies; any remaining capital will be reserved for follow-on funding of the existing portfolio.

The following chart contrasts the capital needed by Ohio’s seed/start up and early stage companies and the total capital available for further investing at those stages. The difference means that there is a substantial capital gap facing Ohio’s entrepreneurs and their investors.

Several comments should be made about these numbers. First of all, as noted above, these totals must cover both follow-on funding for existing portfolio companies and investments in companies new to the portfolio. Furthermore, although these totals are reported by firms that are headquartered in Ohio, not all of the new investments or follow-on investments will be made in Ohio-based companies. Most Ohio headquartered early and growth-stage firms have a regional (i.e., Midwest) or national investment strategy. As a result, it is likely that less than half of the $260 million of capital available for follow-on and new investments at the seed/start-up and early stages will be available for investment in Ohio-based companies.

In short, there is a substantial capital gap when supply is compared to need: over $263 million. A realistic number is probably substantially higher. Bridging this gap is one of the most pressing challenges facing Ohio’s early-stage entrepreneurs and venture investors.
Conclusion

And we must not forget that Ohio’s entrepreneurs and investors work in a global economy.

The data on 2013 investments across the stages of company development and the venture investors active in the state suggest a vibrant entrepreneurial ecosystem in Ohio, and to a certain degree that view is correct. The number of seed/start-up and early stage companies in the state is arguably at an all-time high, and it is growing thanks to many factors: substantial continuing support from the Ohio Third Frontier; the increasing number of angel groups, accelerators and incubators; and improving commercialization programs at Ohio’s universities and research institutions. The success of companies such as AssureRx Health, TOA Technologies, Simbionix, Akebia, OnShift and Manta Media (many profiled later in this report) make it clear that high potential companies can be started and grown in the state, creating high paying jobs and benefits for the economy and investors alike.

Yet the picture is not rosy, chiefly because of unmet capital needs facing Ohio’s entrepreneurs. With more companies being formed, in part because of affirmative state action and funding, capital needs can only grow. This is evidence of success, and at the same time a potential obstacle to future growth.

And we must not forget that Ohio’s entrepreneurs and investors work in a global economy. Ohio competes for intellectual capital, executive talent, investor attention and qualified workers with regions and countries around the world. Providing the capital and talent that Ohio’s growing companies require to meet global competition is a high priority for keeping the state’s economy strong. As we report in the next section, there is a substantial ecosystem focused intensely on helping that happen.
II. The Ohio Ecosystem

Fast Facts

$61.7 million in recent Ohio Third Frontier awards intended to create more new companies
Active angel networks, including three ranked in the top 4% nationally
Accelerators, incubators, and Entrepreneurial Signature Programs in all regions

Investment and investor data represent activity within an ecosystem. In Ohio, the entrepreneurial ecosystem has developed over several decades and is now a robust community of organizations, research institutions, and funders that support entrepreneurial businesses and individuals. This section describes key parts of that ecosystem. Because it is organic and alive – constantly growing, adapting, interacting – it cannot be fully reflected in organizational or program descriptions. Listing some of its moving parts can only suggest the Ohio ecosystem’s vitality, productivity, and potential.

Increasing the Deal Flow:
Ohio Third Frontier and Other State Programs

The Ohio Third Frontier program (OTF) plays a fundamental role in catalyzing business formation by supporting applied research and commercialization and capital formation. The OTF provides funding to:

- Create technology-based products, companies, and jobs.
- Support applied research and commercialization.
- Facilitate entrepreneurial assistance.
- Assist in early-stage capital formation.
- Enable expansion of a skilled talent pool.

Substantial recent OTF program awards are intended to add more new companies to Ohio’s entrepreneurial sector, thus increasing the future deal flow for entrepreneurial executives and investors.

- In December 2012 and February 2013, the Ohio Third Frontier Commission awarded a total of $36 million under its Pre-Seed Fund Capitalization Program to nine recipients for the purpose of fostering investment capacity in promising high growth technology start-up companies.
- In June, 2014, the OTF Commission awarded $25.7 million under the same program to ten recipients throughout the state.
- Following on the success of the Ohio Third Frontier support for the Global Cardiovascular Innovation Center at the Cleveland Clinic, the OTF Commission made two major commercialization center awards in June, 2014. These were to University Hospitals of Cleveland for new drug development through the Harrington Institute, and to The Ohio State University for a neuromodulation center. Both grants were predicated on a significant commitment to new company formation.
All of these OTF awards are designed to increase the number of promising entrepreneurial companies founded and grown in Ohio. These businesses will add to the state’s flow of seed/start-up companies and create a demand for additional investment as these companies develop, add jobs, and create economic value.

Ohio Third Frontier awards have been complemented by the activities of the Ohio Capital Fund and the Ohio Technology Investment Tax Credit (OTITC) program, which were established by the state to encourage angel and other early-stage venture investing.

- The Ohio Capital Fund has committed $133 million to venture firms that have invested in 76 Ohio companies. These companies, in turn, have attracted an additional $823 million in investment capital and created or retained over 2,500 jobs.

- The OTITC, now discontinued, supported investments in 337 Ohio technology companies, based on $44.9 million in state tax credits issued to 3,468 qualified individuals and groups. These recipients invested $180.8 million in Ohio seed/start-up and early stage technology companies from 1996 to 2013.

In addition to these programs, Ohio’s public and private universities and research institutions provide a strong foundation for discovering new technologies and training the technical and management workforce that is essential to entrepreneurial company growth and success. Much attention has been focused on institutional technology transfer and commercialization functions. See, for example, the 2012 report from the Ohio Board of Regents referenced in the Resource Directory.

Research output and commercialization are not, however, the only reasons that these institutions are important. Equally significant are the workers at all levels who are trained in the business and technical competencies that are critically important to the success of entrepreneurial companies. When linked with experienced entrepreneurs — some of whom are also the alumni of Ohio’s universities — Ohio’s graduates are a key reason why the state’s ecosystem is becoming each year more robust and productive. VentureOhio expects to devote more attention to the role of the University System of Ohio and other research institutions in future Ohio VentureReports.

Ohio’s Angel Networks

Thanks to funding programs such as the Ohio Third Frontier, Ohio now has an exceptionally well-established base of angel investment networks and funds that provide the seed and start-up capital necessary to launch new businesses. These funds combine Third Frontier funds with private investment to back promising companies that are typically at too early a stage of growth to attract capital from institutional venture capital firms. In addition to financial capital, Ohio angel investors provide assistance with business development and network building. Evolving from largely unconnected individual investors to integrated networks that in some cases manage funds of their own, the Ohio angel investor community is now a nationally-recognized resource for entrepreneurial business formation and growth that gives the state a competitive advantage in the region and beyond.

Ohio-based angel networks and funds include:

- ARCHAngels, Akron
- East Central Ohio Tech Angel Fund, Columbus
- Impact Angel Fund, Stark County
- Millstream Angel Club, Findlay
- North Coast Angel Fund, Cleveland
- Ohio Tech Angels, Columbus
- Queen City Angels, Cincinnati

Ohio’s angel investors have a substantial cumulative effect. According to the Ohio Third Frontier 2012 annual report, angel funds participating in state programming report that more than $241,702,680 was invested in Ohio companies between 2002 and 2012; follow-on investments and sales account for over $2.6 billion in leverage. The companies that received investments during this period have created more than 4,000 jobs.

And it’s worth noting that three of Ohio’s angel funds rank in the top 4% nationally. As rated by CB Insights, Queen City Angels ranks 2nd in the country (out of 370); Ohio Tech Angels, 7th; and Northcoast Angel Fund, 14th. Angel investing in Ohio is a powerful, nationally recognized contributor to the state’s flow of healthy entrepreneurial companies.
Accelerators and Incubators

Accelerators and incubators are important components of Ohio’s ecosystem, constantly adapting to serve new technologies and entrepreneurs as the state’s pipeline of new enterprises grows. These organizations advise, support, connect, and fund individuals and early stage businesses to test ideas and launch innovative services or products. Ohio abounds in examples that are attracting national attention. Among them:

- The Brandery in Cincinnati “accelerates start-ups by building powerful brands”. So far, 35 consumer-oriented start-ups have benefitted from the accelerator’s Brand Marketing Mentors and start-up and seed investments. Ranked among the top 10 accelerators nationally, The Brandery is supported by the Ohio Third Frontier One Fund and corporate and civic investors in Cincinnati. www.brandery.com.
- Cleveland’s LaunchHouse bridges the gap between manufacturing start-ups and technologies with seed investments and services. Its facility features access to the city’s nationally-recognized OneCommunity high speed fiber optic network. Among its many community partners and sponsors are JumpStart and Bizdom. www.launchhouse.com.
- Youngstown Business Incubator is an internationally-recognized center for business-to-business software companies. Thirty-two growing companies are based in YBI’s four buildings in downtown Youngstown. YBI’s campus also houses “America Makes”, the federally-supported additive manufacturing R & D center. www.ybi.org.

See page 35-37 for a more complete list of these vital organizations.

Regional Support Organizations

Operating in all six regions of the state, the Entrepreneurial Signature Programs (ESP) were launched by Ohio Third Frontier in 2007 to provide locally-appropriate services, facilities, and functions to advance technology-based entrepreneurs and start-ups with strong growth prospects. The ESP’s use full-time and contracted entrepreneurs-in-residence, marketing and business development experts, and other key advisors and make such valuable resources available to companies without charge.

As of December 2012, the ESP organizations have helped to attract or create over 600 companies. These companies raised significant investments of venture capital from venture capital firms in Ohio and beyond.
Ohio’s entrepreneurial businesses and investors have already created an enviable record, aided by a robust ecosystem and engaged public policy. But, as Shakespeare reminds us,

“...what’s past is prologue, what to come; In yours and my discharge.”

We have, in other words, the future in our own hands. What needs to be done to build on Ohio’s record and create a future worthy of its potential? Three things are critically important: financial capital, human capital, and engaged public policy.

Financial Capital
Growing businesses constantly need new investment. In early 2014, VentureOhio surveyed its Members, who reported that 176 seed/start-up and early stage Ohio companies needed $523 million in new capital investment before the end of 2015. Substantial further needs were projected for the following years. As described earlier in this report, Ohio investors now have only $260 million in seed/start-up and early stage capital available for new and follow on investments, leaving Ohio’s entrepreneurial companies facing a substantial capital gap. This will need to be filled if the state’s growing number of new companies is to fulfill its promise of investor returns, economic growth, and job creation.

The need for abundant financial capital is greatly increased by Ohio’s ecosystem of support for start-up and emerging companies. Much of this entrepreneurial ecosystem has been described in this report – institutional technology commercialization, accelerators, incubators, regional entrepreneur support organizations, angel funds. Keeping this system healthy will help the state’s new companies make the most of their financial capital as they reach for their full potential.

Human Capital
As noted earlier, Ohio’s higher education and research institutions play a key role in creating the workforce that is an essential ingredient of entrepreneurial success. In addition, the 120 investment professionals working for venture investors in the state constitute an important resource in advancing Ohio’s entrepreneurial economy. As noted in the company success stories starting on page 22, Ohio start-up companies are making progress in creating and attracting the experienced entrepreneurs and technical workforce that they need. Talent attraction can only grow in importance as these companies strive to realize their potential.

Public Policy
The state of Ohio’s support for technological innovation and entrepreneurship has been relatively consistent for more than three decades. This support catalyzed and reinforced both private and civic investment and engendered broad public support. For example, the voters of Ohio approved a bond issue for the Ohio Third Frontier program by a 68 to 32 percent margin in 2010. This margin was the result of long-standing bi-partisan political agreement – augmented by wide media approval – that investing in innovation and entrepreneurial business growth was critically important to the state’s economy and the well-being of its workers and their families. Without the state’s support, Ohio’s success story would be more modest, less productive of economic and job creation, and a weaker foundation for future growth.
III. Ohio Entrepreneurial Success Stories – A Few of the Many

STERIS – The Signal Success That Keeps On Succeeding

As a venture-backed Ohio success story, STERIS is hard to beat. Founded in Ohio in 1985 as Innovative Medical Technologies (“IMT”), the company was formed to develop and commercialize a novel low-temperature, liquid sterilization process for medical devices. The process was invented by Dr. Raymond Kralovic, a microbiologist employed by the American Sterilizer Company (Amsco). Based in Erie, PA, Amsco was the established leader in sterilization products. After several attempts to convince Amsco management to support the development of his technology, Dr. Kralovic was asked to leave the company, a decision Amsco’s management would later come to regret.

After leaving Amsco, Dr. Kralovic and a partner, Ed Schneider, together invested $30,000. Their investment, plus an additional $85,000 from an angel group, Medical Ventures, was IMT’s initial capitalization. In 1986, IMT received additional capital from the State of Ohio’s Thomas Edison Partnership to further develop and validate the marketability of IMT’s technology. About this time, Dr. Kralovic approached Primus, a relatively new Cleveland-based venture fund that was focused on investing in promising high-growth companies in northeast Ohio. Primus engaged Bill Sanford to review the investment opportunity on their behalf. Bill recommended that Primus invest in the company, and Primus agreed to invest subject to Bill’s joining the company as its president.

In 1987, the company raised $1.2 million from Primus, McDonald & Company, Invicare, Ameritrust and others, and changed its name to STERIS Corporation. From 1987 to 1992, STERIS raised several additional rounds of venture capital from a syndicate including Primus, McDonald & Company, Frontier, Allsp, Norwest, and Society Venture Capital, among others. Also during this period, the company further developed its proprietary sterilization technology.

In the early 1990’s, the IPO window for high-growth companies was wide open. While still a young company with modest but fast growing revenues, STERIS raised additional equity capital in June, 1992, by listing itself on NASDAQ. STERIS sold its first shares of stock at $7 per share and raised approximately $15 million in its initial offering. At that time, STERIS had fewer than 200 employees. A secondary public offering was successfully concluded in 1993, selling one million shares at $13.50 a share.

Having access to the public equity markets and a valuable security in its own stock, STERIS began in 1994 to make a series of acquisitions, which has continued to this day. One of its most significant was that of Amsco, the very company that previously employed Dr. Kralovic and that refused to pursue the novel technology that became the basis of STERIS’s success.

As a result of many successful acquisitions and product diversification, STERIS is now a world leader in infection prevention and control. The company has over $1.6 billion in revenues, a market capitalization of approximately $3.3 billion, and over 7,000 employees with facilities (manufacturing, R & D, distribution, sales) in 60 countries. To this day, STERIS’s headquarters remain in Mentor, Ohio.

A great success story by any measure, Ohio or not! And it enabled some early STERIS founders to start more companies, e.g. CardinalCommerce, formed by CFO Mike Keresman, and Neuros Medical, formed by Jan Snyder.

TOA Technologies – Service Scheduling that Makes Customers Smile

Founded: 2003  Ohio employees: 80  Capital raised: $100 million

Yuval Brisker and Irad Carmi each had the same idea: solve the dual annoyances of waiting for an appointment and of scheduling deliveries. Yuval was living in New York and watching Peapod try to deliver to people who weren’t home. Irad was sitting in a Cleveland waiting room with his father-in-law, three hours past the scheduled medical appointment with no communication about why things were delayed and no apparent concern for the inconvenience to the people waiting. There had to be a better way. Thus was born the product ETAdirect, which has carried the company they founded, TOA Technologies, to worldwide success.

Yuval and Irad had met at Israeli software company MaxBill, and had learned there the ups and downs of start-up life. They were ready to start a company. With some help from the Beachwood Business Incubator and a Cleveland law firm, they formed a company and raised angel capital from friends in England and New York. With the successful raising of a small angel round, they completed the first version of their product and deployed it in Jennifer Convertibles, Arhaus, and Charter Communications. They then began raising venture capital in earnest, holding meetings on both coasts and comparing the VCs they met with Cleveland alternatives.

Ultimately, they chose Cleveland and a syndicate co-led by Early Stage Partners and Draper Triangle Ventures. The support they had received from the Beachwood Business Incubator and their personal trust for the syndicate’s leaders were decisive in choosing to locate in Cleveland. Without locally managed regional venture capital, they would definitely have raised money on the coasts and moved the company there. Subsequent rounds of capital were indeed raised from coastal venture capital firms – Intel Capital, Sutter Hill Ventures and Technology Crossover Ventures – but the company was firmly established in Beachwood, Ohio, and was not asked to move.

Over its ten-year life, TOA Technologies has grown to 600 employees worldwide, with customers on six continents. Their leadership status in mobile workforce management software was validated by their recently announced purchase by Oracle, which will include ETAdirect as a cornerstone of Oracle’s mobile ERP platform.
AssureRx Health – Helping People Reclaim Their Lives

Founded: 1996  Ohio employees: 124  Capital raised: $74 million

Mental illnesses account for a larger percentage of health-related disability in developed countries than any other group of illnesses, more than cancer and heart disease combined. Recent analyses indicate that the total US direct and indirect costs of mental illness exceed $300 billion annually. The choice of medications to treat these conditions has traditionally been based on trial-and-error methods rather than on evidence based laboratory testing, often leading to multiple trials of different medications for a patient until a medication or combination of medications that helps is found. Multiple U.S. government funded studies have shown that less than 50% of people respond to their first medication – ineffective prescriptions are not only costly, but also frustrating and potentially life threatening for patients.

AssureRx Health is a Mason, Ohio based personalized medicine company providing industry-leading treatment decision support to clinicians. The company’s proprietary and patented technology is based on pharmacogenomics – the study of the genetic factors that influence an individual’s response to medications – as well as evidence-based medicine and clinical pharmacology. AssureRx Health has licensed technology from Cincinnati Children’s Hospital Medical Center, Mayo Clinic and the Centre for Addiction and Mental Health at the University of Toronto who remain research collaborators.

GeneSight® from AssureRx Health helps health care providers make behavioral health and chronic pain treatment decisions based on a patient’s unique genetic makeup. It presents the complex genetic information in an easy to interpret format by displaying the medications in three “traffic light” categories, green, yellow and red for each individual patient. Through multiple clinical studies, GeneSight has demonstrated an increase in patient response of over 70% compared to unguided, empirical treatment used every day by clinicians. In addition, the product has been shown to save over $2,600 annually per patient in drug and other healthcare costs as well as over $4,000 annually per patient in productivity costs (absenteeism, etc.) per patient.

Founded in 2006, AssureRx Health has grown rapidly to service clinicians and patients throughout the U.S. and has recently expanded internationally through a partnership with Canada’s Centre for Addiction and Mental Health. Today, more than 8,500 clinicians in private practice, health systems, long-term care facilities, VA Hospitals and other care sites are registered to offer GeneSight. AssureRx Health announced in August 2014 that 100,000 mental health and chronic pain patients across North America have now been tested with GeneSight products.

The company has undergone eight rounds of funding and has raised $74.4 million in equity and debt. Early investments from CincyTech, Queen City Angels, Ohio Tech Angels and North Coast Angel Fund fueled the company’s start-up and led to venture financing from coastal firms such as Sequoia Capital and Claremont Creek Ventures, as well as from Ohio-based Allos Ventures. The company has also received debt financing from Silicon Valley Bank and GE Healthcare Financial Services. After eight years of hard work, AssureRx Health’s financial validation matches the company’s progress in improving patient care.

OnShift – Improving Long-term Care Workforce Efficiency

Founded: 2008  Ohio employees: 75  Capital raised: $13.8 million

The dynamic nature of the start-up environment does not always produce planned outcomes. Gene Groys experienced a 90 degree shift early in the evolution of OnShift. He had been developing mobile phone software for social networks when a friend who was a nursing home administrator asked if the software could be adapted to help nursing homes maintain federally regulated staff to patient ratios. Saying “yes” was not part of Groys’ original game plan. After some initial research, he saw both the market for the product and the benefit to patients in helping long-term care executives manage labor costs – 50-70% of their operating expenses – efficiently.

Given limited resources, Groys cultivated the business in his basement with early employees investing sweat equity or accepting deferred payments. Groys raised seed money from several northeast Ohio serial entrepreneurs to get the product from concept to beta and in the process had Mark Woodoka join as CEO. As the software became concrete, OnShift found they were on the forefront of the market. The company observed that nursing home administrators were increasingly aware of the staffing problems Groys had identified.

Closing the initial institutional funding round proved challenging, but additional seed funding from JumpStart and North Coast Angel Fund played a critical role and “bridged us to where we were interesting to institutional investors and we closed out our first institutional round 10 months later,” said CEO, Mark Woodoka. Ultimately, that first round included Draper Triangle Ventures, Glengary LLC, and Early Stage Partners. OnShift has completed three institutional funding rounds totaling $15.2 million, and has attracted out-of-state investors, such as HLM Venture Partners.

The state-backed money came at a crucial time. For Woodoka, this injection of funds was evidence of an evolving ecosystem; “this is the third start-up I’ve done in Ohio and only the first one I’ve gotten funded in Ohio.” Not only did OnShift benefit directly from state dollars, but it also received funding from other sources that “were incentivized through government initiatives to actually get a tax incentive on those dollars,” said Groys. The company has 75 employees and 1400 customers – numbers, Woodoka noted, that have been almost doubling every year.

Cleveland’s entrepreneurial ecosystem can be measured in part through its retention of serial entrepreneurs and their start-ups.
Akebia-Aerpio – One Great Pharmaceutical Venture Leads to Another

<table>
<thead>
<tr>
<th>Founded:</th>
<th>Ohio employees:</th>
<th>Capital raised:</th>
</tr>
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<tbody>
<tr>
<td>Akebia: 2007</td>
<td>7</td>
<td>$91 million</td>
</tr>
<tr>
<td>Aerpio: 2012</td>
<td>10</td>
<td>$63 million</td>
</tr>
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A society that embraces entrepreneurship also embraces innovative solutions to complex problems. Take, for example, a group of investors and scientists in Cincinnati who saw an opportunity in a program at Procter & Gamble that was being discontinued. That program was exploring how to simulate the body’s production of red blood cells when it copes with oxygen deprivation at high altitudes. This was not of strategic interest to P&G but the investors and scientists saw that they could harness altitude’s effect on the body into a daily oral treatment for chronic kidney disease (CKD) patients with anemia.

Akebia started when Cincinnati’s Triathlon Medical Ventures, negotiated an exclusive world-wide license of the technology from Procter & Gamble. In 2006, Triathlon, along with the key scientists who helped spot the opportunity, founded Akebia Therapeutics to develop and commercialize a new anemia drug based on this altitude response. The drug has completed Phase II clinical trials and has proven to be a safe and effective treatment for anemia resulting from CKD.

The market demand for this product was evident in Akebia’s initial public offering late in 2013. The company successfully raised $100 million (having filed for $75 million) and sold 5.9 million shares, well above their projection of 4.9 million.

Beyond the innovative treatment, Akebia’s success is due in large part to the effective leadership from the first CEO Joseph Gardner and early funding from local groups such as Triathlon and Queen City Angels. Gardner led Akebia through one of the largest venture-backed financing rounds in Cincinnati history. He then focused his leadership on Aerpio, a spin-off of Akebia, that is developing small molecules and monoclonal antibodies to fight vascular disease and promote wound healing.

The Akebia-Aerpio relationship is one of many examples in the entrepreneurial ecosystem of success breeding success. Since 2012, Aerpio has raised $63 million after four rounds of funding. The commitments drew many of the same investors as Akebia from local groups such as Triathlon and Athenian Venture Partners to coastal investors such as Novartis Venture Funds.

Gardner combines a unique skill set conducive to the entrepreneurial ecosystem in Southwest Ohio. As an expert in the field, he is an effective leader for the internal vision of the company. Considering that a miniscule percentage (between 1 and 4%) of all business plans investors see receive funding, Gardner’s success is contingent on his ability to market the science and manage investor concerns. The maintenance of Cincinnati’s ecosystem draws on both its network of industry expertise as well as talented leaders like Gardner who have both the vision to grow a business and the stamina and passion to start over.

HealthSpot – Ohio Roots; Worldwide Healthcare Efficiencies

| Founded: 2010 | Ohio employees: 50 | Capital raised: $30 million |

Wasting hours in medical waiting rooms is so common that patients and families take it for granted. But after an extended stay in an urgent care center with one of his children, Steve Cashman, CEO and founder of HealthSpot, thought differently. He saw potential to mitigate a problem that everyone had come to tolerate. He channeled his technology background into a solution for expedited, high-quality care.

The idea developed into a walk-in kiosk established in convenient locations that allows patients to meet with doctors in real-time via high-definition videoconferencing. Costs are reduced for both patients and providers as efficiency is increased allowing doctors to see more patients per hour and reducing the time spent waiting by patients.

HealthSpot formally launched in January of 2013 to excellent reviews at the International Consumer Electronics Show in Las Vegas and earned the “Small Business of the Year” award from the Consumer Electronics Association. Over the course of 2013, a pilot program was conducted at three Cleveland Clinic family health centers and generated a 93% approval rating from patients. The kiosks are operating in emergency rooms and urgent cares across the country and the company is in communication with national organizations such as the U.S. military and pharmacies.

Investors have responded to the market demand for HealthSpot investing nearly $30 million after several rounds of funding. Hugh Cathey, now Chief Revenue Officer of HealthSpot, was one of the earliest investors. He discussed the kiosk’s potential with Cashman at a Panera early in the company’s genesis. With Cashman’s technology background and Cathey’s track record of success with central Ohio start-ups, the two were able to combine a good product with the financial support to make it viable in the marketplace.

Despite its national presence, HealthSpot remains loyal to its Ohio roots. The bulk of its operations have remained in the state, including the Dublin headquarters and a manufacturing facility in New Albany employing around 50 people. By the end of 2014, the company expects its employment base to grow to 75-80, a trajectory they should maintain through 2015. The Ohio network has contributed at different stages as HealthSpot has developed from Nottingham Spirk’s prototype to funding from the Innovation Ohio Loan Fund and Cardinal Health.

According to Cathey, the Central Ohio presence is no coincidence: “Central Ohio is very entrepreneur friendly and access to capital is good and has gotten better.”
Juventas Therapeutics – Improving Patient’s Lives with Cardiac Repair

Founded: 2007  Ohio employees: 13  Capital raised: $35 million

Rahul Aras doesn’t remember a Eureka moment that led him and Dr. Marc Penn to found Juventas Therapeutics. When it comes to developing gene therapies that use the body’s own stem cells to repair damaged areas of the heart, it’s more about the tremendous effort it takes to keep a life sciences company going than a flash of inspiration.

The two founders met at the Cleveland Clinic in 2005 and two years later founded Juventas Therapeutics. “What Marc was doing was bleeding edge,” recalled Aras. “My role was to ask the questions: ‘What is the viability of this therapy? Can it be developed for commercial use?’ What I saw was tremendous promise in Marc’s technology and that Marc is an excellent entrepreneur.”

Juventas Therapeutics is now in one of the most pivotal times for a life sciences start-up, as the therapy is being evaluated for safety and efficacy in clinical trials at more than a dozen leading medical centers across the United States. The early results indicate the therapy is safe with the potential to help improve the lives of patients suffering with heart failure. It is now a matter of maximizing the value of this therapeutic opportunity by determining which patients benefit the most.

There were many resources in Northeast Ohio that were critical to the development of Juventas. Marc’s network of gene therapy experts provided insight and guidance. Jumpstart, Northcoast Angel Fund and the Third Frontier-funded Global Cardiovascular Innovation Center all provided timely early stage investments.

The ecosystem, Aras recalled, was “incredibly supportive of early stage companies. They really help get you off the ground.” Those early investments made Juventas a viable option for larger institutional investors that include several Ohio-based firms such as Triathlon Medical Venture Partners, Early Stage Partners, Reservoir Venture Partners, and Glengary, LLC. The company has also attracted out-of-state investors such as Fletcher Spaght Ventures (Boston, MA), Venture Investors (Madison, WI), Takeda Ventures (Palo Alto, CA) and New Science Ventures (New York, NY). As Juventas looks to fund its next stage of development, it will likely have to continue to look for additional out-of-state investors. “There are a limited number of Midwest funds that can drive companies like ours forward. That kind of capital is not readily available in the Midwest.”

The company now employs thirteen people and after three funding rounds has raised $35 million in equity capital. This standard accounting metric of success is not the only driving force for Aras and his team. Juventas provides them the opportunity to work on a project they believe will positively impact society. For Aras, “what’s exciting about this job, more than anything I’ve done in the past, is that every member of the team is intensely focused on improving patients’ lives. There’s no bureaucracy or politics here. There’s nothing but solving problems and moving the technology forward.”

Blue Water Satellite, Inc. – Cleaner Water with Satellite-Based Analysis

Founded: 2009  Ohio employees: 12  Capital raised: $1.5 million

Despite massive clean-up efforts, water quality has continued to degrade around the globe. Two former staff members of Bowling Green University, Dr. Robert Vincent and Milt Baker, are working to change this negative trend.

They discovered that the conventional methods for assessing water quality – collecting ground samples – did not provide sufficient insight into the causes of the problem. These methods also failed to identify the boundaries of the problem’s source. Through the use of algorithms patented by Dr. Vincent, Blue Water Satellite is able to analyze an entire body of water to identify the specific areas in need of treatment. Remediation technology provided by Blue Water allows for a nuanced treatment that saves money and ensures a safer water source.

Vincent and Baker started Blue Water Satellite in 2009 with seed money from Rocket Ventures and angel investors in Northwest Ohio. In the year 2014, the company is projected to have $1 million in sales. With customers ranging from a major pipeline company to four of the largest power utilities around the world to five of the largest environmental engineering firms, their scope of influence is wide. Blue Water Satellite recently moved headquarters to the University of Toledo and is implementing a growth plan to build the company to $50 million in sales by 2018. With a growing client base, and expanding internal operations, Blue Water Satellite will continue to bring attention and jobs to Northwest Ohio.
Manta Media – Big Time Online Info for Small Businesses

Founded: 1996  Ohio employees: 65  Capital raised: $20 million

The Manta Media success story has many Ohio pages. Founded as an online directory in Columbus in 1996, Manta has grown into one of the world’s largest online communities for small businesses. As an online media company that provides the largest free source of information on small companies worldwide, Manta enables businesses to promote and sell their services while establishing countless useful connections. With over one million registered users and over 64 million company profiles (and growing), Manta has been ranked in Business Insider’s SAI Digital 100: The World’s Most Valuable Startups for three consecutive years.

From 2000 – 2005, Ohio’s Athenian Venture Partners led venture funding rounds totaling $17 million. A 2006 Innovation Ohio Loan Fund financing of $1.25 million has been repaid in full. Over time, the business had grown to roughly $25 million in annual revenue, and in 2012 Norwest Venture Partners (a national venture capital firm based in Palo Alto, CA) purchased a minority interest in the company.

Manta’s story was begun by Ohio investors, including Athenian Venture Partners and Reservoir Venture Partners, but it also attracted key management to the state to continue to develop the business. The company recently hired its CEO and attracted other key employees from Silicon Valley. Workforce now totals 65 in Ohio, with further expansion underway in 2015.

The Manta story is composed of Ohio investor patience, persistence and discipline, augmented by sophisticated local talent and key Silicon Valley hires. Indeed an impressive success story for investors, Manta’s workforce, and the state of Ohio.

VentureOhio – Advancing Ohio Entrepreneurship

VentureOhio is a non-profit trade association intended to serve as a “single voice” for the sources of capital and business building organizations active in Ohio’s entrepreneurial ecosystem. The organization was formed in late 2013 based on the work of a thirty-member state-wide steering committee that determined such an organization could help launch and optimize programs and policies intended to strengthen the ecosystem. VentureOhio now has more than 90 members and is led by a 15-member Board of Directors representing a cross section of the organization’s core membership.
VentureOhio has three main objectives:

1. **Assuring there is an abundant supply of capital for all stages of entrepreneurial company formation and growth**

2. **Strengthening the support system and business building resources for entrepreneurial companies**

3. **Increasing regional and national awareness of the successes in Ohio’s entrepreneurial ecosystem**

These three main objectives are complemented by three other goals: assuring the efficient transfer of Ohio institutional research into viable Ohio companies; educating members about important developments and issues; and monitoring and improving state policies and legislation that may impact the entrepreneurial ecosystem.

Membership in VentureOhio is open to venture investors, accelerators, incubators, and others interested in advancing Ohio’s entrepreneurial business growth. The organization’s website is [www.ventureohio.net](http://www.ventureohio.net)
Ohio VentureReport 2013

Organizations with Industry Literature (organized by publication date)

1) BioEnterprise Corporation
   b. BioEnterprise is a business formation, recruitment, and acceleration initiative designed to grow healthcare companies and commercialize bioscience technologies.
   c. Resources (http://www.bioenterprise.com/reports):
      i. Cleveland Biomedical Innovation Destination 2014
      ii. 2014 Midwest Healthcare Venture Capital Report
      iii. 2010 Cleveland BioScience Investment Report

2) JumpStart
   a. www.jumpstartinc.org
   b. JumpStart is a non-profit that invests both cash and services in high-growth start-ups in Northeast Ohio.
   c. Resources:
      i. JumpStart Partnerships Matter 2014 Community Report
      ii. 2013 Economic Impact of JumpStart Inc. Portfolio and Client Companies
      iii. 2013 Northeast Ohio Year-End Regional Economic Development Report
      iv. 2013 Greater Cleveland Venture Capital Report
      v. 2007–2011 Greater Cleveland Venture Capital Overview

3) Burton D. Morgan Foundation
   b. The Burton D. Morgan Foundation aims to strengthen the free enterprise system by investing in organizations and institutions that foster the entrepreneurial spirit.
   c. Resources (http://www.bdmorganfdn.org/annual-reports):
      i. 2015 Annual Report

4) BioOhio
   b. BioOhio is a membership organization that builds and accelerates bioscience industry, research, and education in Ohio.
   c. Resources (http://www.bioohio.com/ohioreports/):
      i. 2013 Annual Conference Booklet
      ii. Ohio Bioscience Growth Report 2012

5) NorTech
   b. NorTech is a technology-focused organization that strengthens Northeast Ohio’s economic vitality by accelerating the pace of innovation in the region.
   c. Resources (http://www.nortech.org/resources/):
      i. 2013 Regional Economic Development Report
      ii. Ohio Third Frontier

6) Ohio Third Frontier
   b. Ohio Third Frontier, a major part of the Office of Technology Investments, is an internationally recognized technology-based economic development initiative that aims to provide funding for technology-based organizations with the goal of creating new, technology-based products, companies, industries and jobs.
Ohio Entrepreneurial Signature Programs

7) Ohio Capital Fund
   b. The Ohio Capital Fund, a fund of funds, was established by the State of Ohio to spur private investment in Ohio companies in the seed or early stage of business development.
   c. Resources (http://www.ohiocapitalfund.com/):
      ii. Making an Impact: Assessing the Benefits of Ohio’s Investment in Technology-Based Economic Development Programs

Other Publications

6) Ranking Angel Investment Groups, August 2014; CB Insights. www.cbinsights.com/blog/top-angel-groups

Ohio Entrepreneurial Signature Programs

1) Accelerant Dayton
   a. www.accelerantdayton.com
   b. Accelerant Dayton is a public-private seed-stage investor focused on scalable technology companies in Western Ohio.
2) CincyTech
   a. www.cincytechusa.com
   b. CincyTech is a public-private seed-stage investor whose mission is to strengthen the regional economy by driving talent and capital into scalable technology-based companies in Southwest Ohio.
3) JumpStart
   a. www.jumptarinitc.org
   b. JumpStart is a non-profit that invests both cash and services in high-growth start-ups in Northeast Ohio.
4) Rocket Ventures
   a. www.rocketventures.org
   b. Rocket Ventures is a resource for Northwest Ohio’s early stage tech-based companies by providing access to capital and commercialization assistance.

5) TechColumbus
   a. www.techcolumbus.org
   b. TechColumbus provides resources and assistance to technology start-ups in the Central Ohio region.
6) TechGrowthOhio
   a. www.techgrowthohio.com
   b. The mission of TechGROWTH Ohio is to significantly increase revenue growth and capital investments in technology-based businesses within the 20-county region of southeast Ohio.

National Organizations

1) America Makes
   a. https://americamakes.us/
   b. America Makes is an extensive network of organizations, based in Youngstown, Ohio, that is focused on helping the United States grow and enhance its 3D printing industry.
2) Angel Capital Association
   b. The Angel Capital Association is closely aligned with the Angel Resource (ARI), a charitable organization that conducts market research and provides education and information related to angel investing for investors, entrepreneurs, entrepreneurial support organizations, policy makers, university faculty and students.
3) Kaufman Foundation
   b. The Foundation focuses its grant-making and operations on two areas – educational achievement and entrepreneurial success – which are critical in developing self-sufficient people and a vibrant economy and society.
4) National Business Incubation Association (ACEnet)
   b. The National Business Incubation Association (NBIA) is the world’s leading organization advancing business incubation and entrepreneurship. Each year, it provides thousands of professionals with information, education, advocacy and networking resources to bring excellence to the process of assisting early-stage companies.
5) The National Environmental Technology Incubator
   b. The National Environmental Technology Incubator (NET) is focused on commercializing advanced materials, renewable energy, sensor & information technologies to stimulate economic development.
6) National Venture Capital Association
   b. The National Venture Capital Association (NVCA) represents its members and the entrepreneurs they fund by advocating policies that encourage innovation and reward long-term investment. NVCA is a pre-eminent resource for venture capital data.
What do Sequoia Capital, Claremont Creek Ventures and Four Rivers Group know about investing in Ohio (that you don’t)?

For starters, they know that real startup ROI is happening right here in the Buckeye State, right now. And that Ohio is rich with hungry, emerging companies and ripe with tech, medical, research, and academic talent. Which is why, collectively, these leaders of venture capital have made significant investments in Mason, Ohio-based Assurex Health, a rapidly growing bio-tech company creating and commercializing technologies that are transforming the personalized medicine movement across the globe.

Smart money knows Ohio. Do you?

Learn more: www.genesight.com

Learn more: www.cincinnatichildrens.org/innovation

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The Lorain County Community College Foundation’s $14 million Innovation Fund provides pre-seed capital to help great technology ideas develop into viable businesses. Founded in 2007 as part of a regional grow-our-own-strategy, the fund has invested in 117 companies which have attracted $140+ million in follow-on investments. The fund is actively investing in early-stage high-growth technology companies located in Northeast Ohio.

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