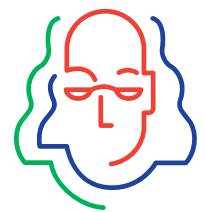


**turning ideas
into jobs**



Ben Franklin
Technology PARTners

1,522
jobs created

487
jobs retained

\$309,137,293
in post-Ben Franklin financing secured

35
new companies formed

867
companies assisted

260
new products & processes launched

\$285,909,443
in sales revenue generated

**2011 accomplishments
ben franklin clients
attributed to the program**

Entrepreneurship and innovation have been the foundation of our country – the "American Dream." They still are today. In the last three decades, **net job growth in the U.S. has been driven overwhelmingly by start-up businesses.*** This has remained true even in recessionary years. We need entrepreneurship and innovation today more than ever. And right now, **new Ben Franklin companies are developing new technologies and hiring new workers.** Established firms assisted by Ben Franklin are getting the help they need to innovate new products and processes to compete and win globally. We are a powerful public-private partnership bringing the best in industry, government and higher education together to focus on one thing... **Turning ideas into jobs.**

*'The Importance of Start-ups in Job Creation and Job Destruction',
Tim Kane, 2010, Ewing Marion Kauffman Foundation

**catalyzing
innovation and
entrepreneurship**

Formed in 1982, the Ben Franklin Technology Partners is one of the nation's first public-private partnerships dedicated to technology commercialization. Each of the four Partners is managed by a local private sector-led board of directors and is accountable to the Pennsylvania Department of Community and Economic Development. This decentralized Ben Franklin model, with its comprehensive support in capital and services, has become a **global standard studied and adopted by more than a dozen states and sixteen foreign countries**. Each of the Ben Franklin Technology Partners does its work regionally by identifying opportunities and gaps through dynamic local engagement. The Partners are then able to leverage the assets of the statewide network to bring additional federal and foundation resources to the mission. Three decades of experience and outreach have created an unparalleled network of business and technical experts, private investors, higher education, and federal and foundation relationships that come together to support growing companies.

private sector- driven economic development

Ben Franklin is helping Pennsylvania create a knowledge-based economy -- an economy that is difficult to outsource, and ready to compete in the future. Ben Franklin identifies Pennsylvania's high-growth potential entrepreneurs and ideas, and then delivers four market-proven services:

Risk capital to **bridge the financing "valley of death" for start-ups & fund innovation in established enterprises.**

Business expertise and mentoring to **strengthen new management teams.**

Technology commercialization expertise to **identify markets and solve technical challenges.**

Nationally recognized incubation facilities that **accelerate start-ups' success.**

Every Pennsylvania Governor and General Assembly has embraced this pioneering approach since 1982. And it has paid off. Since 1989, **Ben Franklin companies have created or saved more than 51,000 jobs.** In fact, an independent study by the Pennsylvania Economy League reported that in a five-year period Ben Franklin:

Boosted the state's economy by **\$9.3 billion.**

Created jobs in its client firms that **pay 33% more** than the average non-farm salary in Pennsylvania.

Produced \$3.50 of additional tax revenue for the state treasury **from every \$1** invested in Ben Franklin.

Ben Franklin TechVentures® is a business technology incubator/post-incubator that includes wet labs and office/meeting space. A recently dedicated 47,000 sf LEED-registered addition completes the award-winning facility located on Lehigh University's Mountaintop Campus, Bethlehem.



The first \$500,000 of seed capital is the hardest for technology start-ups to raise. Because tech start-ups are usually considered too risky for traditional financing and even for most venture capital firms, securing that first investment of seed capital is a major hurdle. That's where Ben Franklin comes in. **In Pennsylvania, we're virtually the only source of the first \$500,000 that can launch a new enterprise.** And once private investors see Ben Franklin investing in a start-up, they, too, become interested. In fact, **for every dollar Ben Franklin has invested in one of its portfolio companies \$24 of follow-on financing has resulted.** In the last decade, that has meant **\$3,399,257,030** of additional, private investment to grow these companies and the Pennsylvania economy.

stepping up to seed new companies

A Ben Franklin investment is a respected endorsement that helps clients procure follow-on funding from financing sources like angel investors and venture capital firms.

Take Aethon, based in Pittsburgh.

Aethon is a leading developer of automated robots, which are solving asset management and delivery issues of goods and equipment for hospitals. Unaided, these robots deliver meals, medications and equipment to nurses, surgical suites and other hospital destinations, allowing clinicians to concentrate on patient care. Beginning in 2001, Ben Franklin invested a total of \$800,000 in Aethon – and other investors soon followed – in a big way. To date, Aethon has **raised \$40 million** in venture capital. The company **now employs 65 Pennsylvanians**, and recently formed a strategic partnership with Bosch Group, a global leader in industrial technology. Aethon was also featured by Forbes.com as one of "Seven Technologies That Could Change Health Care." Aethon's growth illustrates the powerful boost Ben Franklin financing gives young companies, and the magnet its early investments have proven to be for exponential amounts of follow-on financing.

Aethon engineers, builds and services its line of robotic hospital delivery and asset management solutions from its headquarters in Pittsburgh. Aethon's TUG[®] is used in more than one hundred hospitals nationwide, including this colorful train version used to make deliveries in pediatric settings.



An idea sitting in a lab isn't going to do much for the economy. A revolutionary product may be in hand, but many questions remain to be answered.

How strong is the management team?

What is the market potential?

How much capital is needed to fund development and manufacturing?

Can it be scaled up for production?

How will the product be commercialized?

From where will the follow-on funding come?

Ben Franklin is the entrepreneur's trusted source for answers to these questions. Advice comes from Ben Franklin's in-house professionals whose credibility is from real world, private sector experience. This is direct, hands-on business expertise usually not available to entrepreneurs at the formation phase of their enterprises at any price. **Without this help from Ben Franklin, many high-powered Pennsylvania companies might never have gotten off the ground.** Think Cephalon, OraSure Technologies, McKesson Automation, and Drucker -- all market-leading companies that received early support from Ben Franklin.

**from
drawing board
to marketplace**

CICLON Semiconductor Device Corporation, for example, started in the Ben Franklin Business Incubator located on the campus of Lehigh University. CICLON's technology dramatically increases efficiency in power systems, delivering new levels of system compactness, cost, energy efficiency, and performance. If CICLON's technology was adopted in computer systems worldwide, there would be a reduction of 8,000+ Megawatts of power use annually – the production of 12 power plants. With seed funding and support from Ben Franklin, the company raised \$24 million in venture capital investments. **CICLON's technology has been designed into products offered by world leaders in electronics**, including Apple's iPod, iPad, iPhone, iMac, and MacBook; Motorola cell phones; HP tablets and notebooks; Blackberry phones; and Kindle readers, among others. The company enjoys a strong and expanding patent portfolio and growing sales. In February 2009, CICLON was acquired by Texas Instruments. Because of CICLON's performance and the significant Lehigh Valley talent pool in integrated circuit component manufacturing, all local jobs were retained, and the company plans to continue to expand operations and employment in Pennsylvania. **After beginning with three employees in 2004, TI Lehigh Valley now employs 71.**

A Texas Instruments Lehigh Valley staff person checks product at the Ben Franklin TechVentures incubator/post-incubator facility. Starting as CICLON Semiconductor, TI Lehigh Valley started with three founders and now employs 71.



Technology is the key to solving tough problems, like the development of new energy sources to grow our economy. Ben Franklin is at the forefront of **alternative and clean energy technology development**, with important programs and partnerships in place to create new enterprises, new products, and new jobs. Technology companies will play a key role in another emerging energy arena: the **Marcellus Shale gas resource**. As shale gas production continues to expand, companies are seeking new technologies to utilize abundant gas more widely, and produce it with greater safety and reduced environmental impact. The quicker they get answers, the faster the natural gas industry in Pennsylvania can grow.

tackling tough problems

Start-ups are busy working right now on these new technologies. Many will depend on Ben Franklin funding and commercialization help to get up and running. A good example: **Nittany Extraction is a Ben Franklin-supported start-up that has developed an innovative process that uses low-cost, widely available waste materials** such as mine tailings in the production of proppants. Proppants are used to "prop" open rock fractures that occur during the drilling process and facilitate the flow of oil and gas. Because Pennsylvania is likely to become one of the largest producers of natural gas in the world, the ability to manufacture cost-effective proppants by companies like Nittany Extraction right here in the state represents a very significant commercial opportunity. In addition, the newly created **Ben Franklin Shale Gas Innovation and Commercialization Center** (SGICC) is working to harness new technologies to maximize the economic opportunity from the Marcellus and Utica shale formations. The Center will identify, support, and commercialize technologies and early-stage businesses that enhance responsible stewardship of the environment while properly utilizing this transformative energy asset. One promising technology supported by the SGICC focuses on using Pennsylvania natural gas in heavy-duty vehicle fleet operations via an engine "add-on" fuel system. Ben Franklin funding is being used for commercialization activities that include laboratory studies of engine control strategies during dual fuel operation, and needed adaptation of the system to better integrate it into the vehicle. **This technology could significantly reduce the operational cost of heavy-duty vehicle fleets** and make an impact on industries around the world.

Nittany Extraction was launched as a technology spinout from The Pennsylvania State University with financing and expertise from Ben Franklin. The team from L to R: Barry Sheetz - Chief Technology Officer, John Hellman - Chief Scientific Officer, Tim Hurley - Vice-President, Marty Bradley - President, and Ryan Kosecki - Senior Scientist.



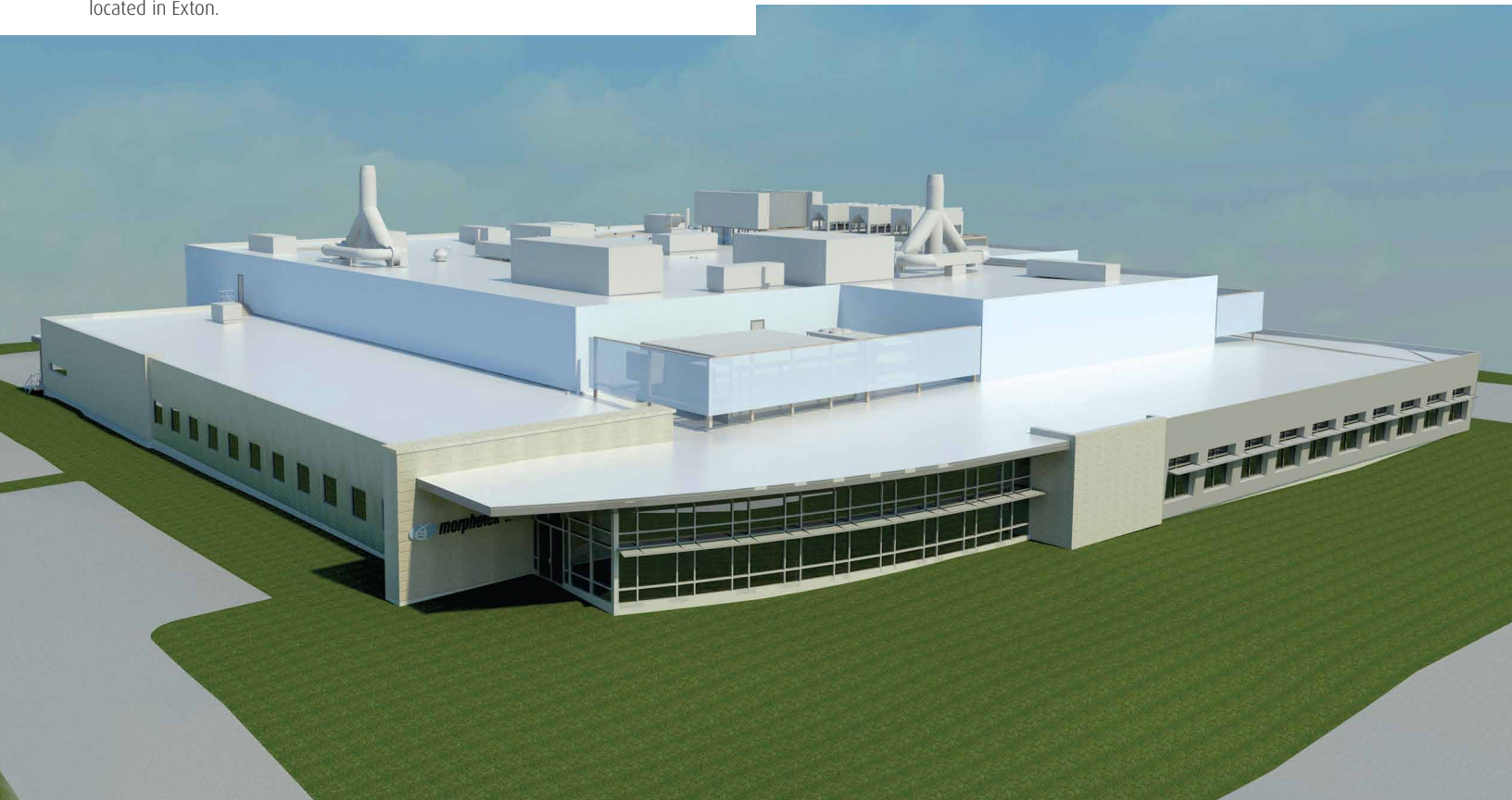
Manufacturing lives on in Pennsylvania, with **Ben Franklin companies working to create the state's new manufacturing jobs**. Take Morphotek, Inc. in Exton, which develops therapeutic antibodies for the treatment of cancer and inflammatory and infectious diseases. **After Ben Franklin assisted Morphotek as a start-up in 2000 and 2001, other investors followed**. In 2007, Morphotek was acquired by Eisai Co. It remains based in Pennsylvania, and is completing construction on an \$80 million manufacturing plant to make medicines for clinical trials. **The 100-person company plans to add 50 to 100 high-tech jobs** for the plant over the next few years. This scenario is repeating itself across Pennsylvania, with Ben Franklin helping clients develop more than 200 new products and processes in a typical year.

driving innovative manufacturing

Ben Franklin Finances Innovation Adoption

The sustained growth of Pennsylvania's established manufacturers depends on their ability to innovate and develop proprietary products. **The research and development needed for this growth cannot be financed for small- to medium-sized businesses by traditional means.** Our state hosts a world-class system of higher education which includes more colleges and universities than any other state except Massachusetts. These institutions, their faculty, and research facilities can be powerful allies for existing manufacturers wishing to innovate. The Ben Franklin program has created the opportunity for existing businesses to team with a university/research partner in order to develop innovative, proprietary products and cost-saving process improvements. This initiative enables companies to receive financing that can be used to pay for faculty, lab time, and design input from the university or research facility chosen by the company. The result of the work will enable the manufacturer to remain competitive and also to grow revenue and job opportunities. By **bringing together Pennsylvania's manufacturers with its institutions of higher education**, Ben Franklin is leveraging two of our commonwealth's most powerful economic drivers to **create the jobs of the future.**

A rendering of Morphotek Inc.'s new \$80 million pharmaceutical plant located in Exton.



By successfully leveraging its performance and impact – Ben Franklin brings acclaim and millions of dollars to Pennsylvania entrepreneurs. In just the last three years, Ben Franklin has secured more than \$25 million in federal and foundation awards to benefit client companies. Funding sources turn to Ben Franklin because it has the track record to credibly make public-private, large-scale efforts work – and work well. **Ben Franklin's successful technology transfer model was acknowledged as playing a pivotal role** in winning the US DOE's recent \$129 million award to a consortium led by The Pennsylvania State University to create a Regional Innovation Cluster for Energy Efficient Buildings in southeastern Pennsylvania. Ben Franklin is regarded as a national – and international – thought leader in technology development. This raises Pennsylvania's profile as a leader in innovation and a welcoming launch pad for entrepreneurs. **Over the last ten years, Ben Franklin has collaborated to leverage more than \$700 million in federal and foundation awards to the benefit of Pennsylvania's technology economy.**

**securing
dollars for
pennsylvania**

6,010

jobs created

3,285

jobs retained

145

new companies formed

\$1 : \$3.50

ratio of pa's ben franklin investment
to tax revenue returned

\$1.8 billion

follow-on funding

five year* ben franklin impact

*2006-2010



Plextronics' Plexcore technology undergoes quality control to make sure the polymers and conductive inks meet specifications. Headquartered in Pittsburgh, Plextronics is focused on organic solar cell and Organic Light Emitting Diode lighting.

Ben Franklin's involvement was a vote of confidence that drew in a series of local and international investors.

NICHOLAS NICOLAIDES, Ph.D., Co-founder, President & CEO, Morphotek, Exton

Our company was a start-up in central Pennsylvania. Without Ben Franklin's financial and non-financial assistance, we would not exist. Their backing at that very crucial stage was key to our being able to get past our initial launch phase and now employ 27 full-time workers.

ETHAN WENDLE, Founder & CEO, DiamondBack Truck Accessories. Philipsburg

Ben Franklin has been with our micronizing company from the start. They know our business and have helped us overcome many challenges. We currently employ 80. Without Ben Franklin, we wouldn't be here today.

GREGG SHEMANSKI, President, Custom Processing Services, Inc., Reading

I wouldn't have started my company without the help of Ben Franklin. It's not just the funding, it's the expertise and the access they provided to legal and financial advisors, experienced entrepreneurs, and venture capital. They opened up a whole entrepreneurial community for my company.

DON CHARLTON, Founder & CEO, The Resumator, Pittsburgh

The Ben Franklin Technology Partners is an initiative of the Pennsylvania Department of Community and Economic Development and is funded by the Ben Franklin Technology Development Authority.



Contact:
John Sider, Managing Director of Statewide Initiatives
Ben Franklin Technology Partners
1010 North 7th Street, Suite 307
Harrisburg, Pennsylvania 17102
717. 948. 4317
johnsider@benfranklin.org

www.benfranklin.org