

BEN FRANKLIN TECHNOLOGY PARTNERS
of NORTHEASTERN PENNSYLVANIA



THE ENERGY OF NEW IDEAS

ANNUAL
REPORT
2015

THE ENERGY OF NEW IDEAS

"IN ADDITION TO THE DIRECT ECONOMIC BENEFITS OF OUR CLIENTS' WORK, THEIR PRODUCTS SOLVE GLOBAL PROBLEMS, ADVANCE HEALTHCARE, AND IMPROVE THE HUMAN CONDITION." —CHAD PAUL

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IN 1752, BEN FRANKLIN DISCOVERED MANY NEW THINGS ABOUT ELECTRICITY. In his experiments, he found that electricity acted like a liquid, passing from one body to another. Because of the rapidity of electricity's transmission, Franklin called it "Electric Fire." What Ben Franklin learned about electricity revolutionized the world.

Flash forward 263 years, and the organization that carries Ben's name continues to support the discovery and harnessing of the Energy of New Ideas. Like electricity, many of our clients' discoveries transform the world. From developing exciting new technologies, to utilizing existing technologies in entirely different ways, to implementing technology that streamlines manufacturing, the Ben Franklin Technology Partners helps companies translate innovation into commercial success, jobs, and economic prosperity.

Like Electric Fire, the Energy of New Ideas spreads. In northeastern Pennsylvania, we have found that business incubation accelerates the growth of new companies. Through proximity, it creates a synergy among companies that reside in our incubators and provides ready access to a proven network of experts to fuel growth. That's why we have begun exploring another expansion of Ben Franklin TechVentures, our award-winning incubator/post-incubator in Bethlehem that is again nearly filled. We will also be adding more member incubators to the Ben Franklin Business Incubator Network, which is among the largest incubator networks in the nation. Providing infrastructure in which early-stage firms are nurtured dramatically enhances their chances for success and is central to our mission.

Ben Franklin literally supports the Energy of New Ideas by investing in energy innovations through the

BEN FRANKLIN
PRODUCED
20,200
PA JOBS
FROM 2007 TO 2011
THAT OTHERWISE
WOULD NOT
HAVE EXISTED.

PA Department of Community and Economic Development's Alternative Energy Development Program (AEDP). Three of these Ben Franklin AEDP clients are profiled in this annual report.

The Ben Franklin Technology Partners invests in, advises, and supports companies that create and retain highly paid, sustainable jobs. In addition to the direct economic benefits of our clients' work, their products solve global problems, advance health care, and improve the

human condition. Ben Franklin Technology Partners stokes the Electric Fire, the Energy of New Ideas.

R. Chadwick Paul, Jr.
President and Chief Executive Officer
Ben Franklin Technology Partners of Northeastern PA

PROGRAM OVERVIEW

BEN FRANKLIN TECHNOLOGY PARTNERS OF NORTHEASTERN PENNSYLVANIA (BFTP/NEP) is part of a four-center, state-funded economic development initiative that began operations in 1983. The Ben Franklin program was created by the Commonwealth to play a leadership role in strengthening regional economies, building Pennsylvania's technology economy, and creating and retaining high-wage, high-skilled jobs. The northeastern center is headquartered at Ben Franklin TechVentures®, a technology incubator/post-incubator facility on the Mountaintop Campus of Lehigh University in Bethlehem. Regional offices are located in Bloomsburg, Reading, and Scranton.

BFTP/NEP's mission is to promote, sustain, and invest in the development of our regional economy through innovation and partnering. Our strategy encompasses three key areas:

1 Developing early-stage, technology-based companies

2 Helping established manufacturers creatively apply new technology to achieve industry leadership and compete effectively in global markets

3 Promoting innovative community-wide initiatives that foster a supportive business environment for high-growth companies

→ VISIT US AT NEP.BENFRANKLIN.ORG.

Ben Franklin works with the most promising ventures that offer significant potential for future growth through the development of a new technology or an innovative application of existing technology. To qualify as clients, companies must be located in or relocate to BFTP/NEP's 21-county northeastern Pennsylvania service area: Berks, Bradford, Carbon, Columbia, Lackawanna, Lehigh, Luzerne, Lycoming, Monroe, Montour, Northampton, Northumberland, Pike, Schuylkill, Snyder, Sullivan, Susquehanna, Tioga, Union, Wayne, and Wyoming. Companies in other Pennsylvania counties are referred to one of the three other Ben Franklin Technology Partners organizations headquartered in Philadelphia, Pittsburgh, and State College.

As hundreds of companies have experienced, Ben Franklin delivers hands-on support, connections to critical resources, and investment funds at companies' most vulnerable times. BFTP/NEP helps clients to achieve and sustain market success and competitive advantage. We are evaluated on the basis of the commercial accomplishments of our clients that are achieved as a result of our assistance.

CAPITAL – Ben Franklin makes investments that typically range from \$25,000 to \$150,000 per company per year for up to three years. We take calculated risks investing in young, unproven companies. We assist early-stage firms as they prepare to raise additional capital and provide them with an important and well-respected initial endorsement.

We also support established manufacturers by providing investments in innovation and access to our network of university and industry experts and facilities. Work is usually technology development or application-driven and is accomplished with a college or university partner.

BUSINESS AND TECHNICAL EXPERTISE – Each company in the Ben Franklin portfolio benefits from the collective experience of seasoned professionals who focus on turning high-potential ideas into high-growth businesses. In-house expertise is complemented by the Ben Franklin Solutions Network of advisors, service providers, and investors, creating a powerful and comprehensive support program for clients.

COLLEGE AND UNIVERSITY RESOURCES – We tap into the strength of Pennsylvania's colleges and universities, whose faculty and students work directly with many of our clients. Ben Franklin provides a crucial link between client companies and the wealth of knowledge, facilities, and human resources in the Commonwealth's higher education institutions.

INFRASTRUCTURE – BFTP/NEP staff partner with economic development colleagues to create and develop a comprehensive support system for early-stage and established technology-based companies throughout northeastern Pennsylvania.

For example, we apply more than 30 years of business incubation expertise in leading the 10-member Ben Franklin Business Incubator Network. This collaboration is among the largest incubator networks in the United States.

FUNDING AND SERVICES THROUGHOUT BFTP CLIENTS' DEVELOPMENT & GROWTH



FINANCIAL SUPPORT

BUSINESS & TECHNICAL ASSISTANCE GRANTS

JUMP START LOANS

SEED INVESTMENTS – debt with warrants



GAP FUND – equity

1:1 MATCHING GRANTS FOR ESTABLISHED MANUFACTURERS



BUSINESS ASSISTANCE

SOLUTIONS NETWORK & ENTERPRISE DEVELOPMENT

- One-on-one direct business support
- Intensive, expert-driven strategy sessions
- Capital access assistance
 - Investor presentation "Scrub" sessions
 - Introductions to angel investor networks and venture capitalists
- Interim CFO program



ENTERPRISE-WIDE CLIENT ASSESSMENT

UNIVERSITY AND COLLEGE TECHNICAL ASSISTANCE AND APPLIED R&D
CONTINUED LONG-TERM SUPPORT

OTHER BEN FRANKLIN TECHNOLOGY PARTNERS OF NORTHEASTERN PA INITIATIVES



BEN FRANKLIN BUSINESS INCUBATOR NETWORK

- 10 member incubators
- Own and manage Ben Franklin TechVentures® and Bloomsburg Regional Technology Center

BEN FRANKLIN VENTURE IDOL – introducing clients to potential investors

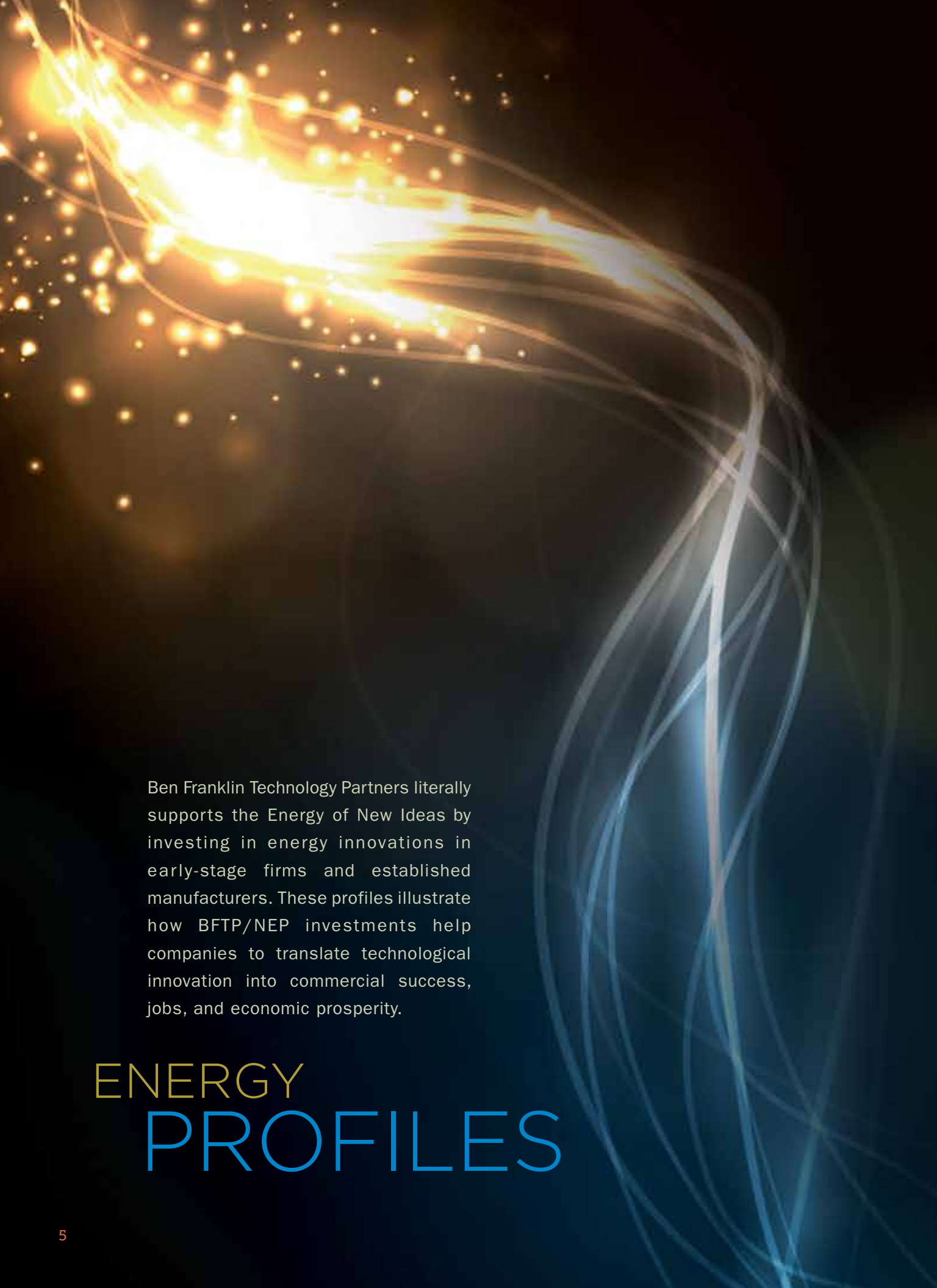
BEN FRANKLIN iXCHANGE – premier regional executive networking event



BETHLEHEM TECHNOLOGY CENTERS I-III

CENTERS OF EXCELLENCE

MEDICAL DEVICE CONSORTIUM



Ben Franklin Technology Partners literally supports the Energy of New Ideas by investing in energy innovations in early-stage firms and established manufacturers. These profiles illustrate how BFTP/NEP investments help companies to translate technological innovation into commercial success, jobs, and economic prosperity.

ENERGY PROFILES

→ **APPLIED SEPARATIONS, INC.**

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APPLYING TECHNOLOGY
TO SAVE WATER, REDUCE
ENERGY CONSUMPTION,
AND CURB EFFLUENTS

→ **BEN FRANKLIN TECHVENTURES**

PAGE 13

LEED GOLD-CERTIFIED
TECHVENTURES USES
CLEAN ENERGY AND REDUCES
ENERGY COSTS.

→ **VITRIUS TECHNOLOGIES, LLC**

PAGE 14

SMART WINDOWS THAT
PRODUCE HEAT AND
INCREASE ENERGY
EFFICIENCY

→ **HYDRO RECOVERY LP**

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AN ENVIRONMENTALLY FRIENDLY
PROCESS THAT TREATS AND
STORES NATURAL GAS
FRAC WATER FOR REUSE



INVESTMENTS

TO BUILD THE REGIONAL TECHNOLOGY ECONOMY, the Ben Franklin Technology Partners of Northeastern Pennsylvania invests in companies through the Challenge Grant provided by the Pennsylvania Department of Community and Economic Development. This year, through its allocation from the Pennsylvania Alternative Energy Development Program, Ben Franklin also invested in companies that are either developing new energy-related technologies or are seeking to employ energy conservation processes. Business and Technical Assistance investments provide early funding for specific projects that are crucial to a company's development or operations.

All clients were competitively selected as having the greatest potential for creating or retaining highly paid, sustainable jobs, introducing novel products or processes, and filling a viable market niche. Ben Franklin works with the most promising ventures on an enterprise-wide basis to enhance their entire way of doing business.

CHALLENGE GRANT INVESTMENTS

A. RIFKIN COMPANY

Wilkes-Barre

University Partner: Lehigh University

Improve the cutting operation process and develop labor costs for the company's newly acquired Hope Uniform product line, which is relocating from New Jersey. Rifkin is the leading manufacturer of commercial and financial security bags and is expanding into specialty apparel.

BFTP Investment: \$17,100 → Total Budget: \$88,761

BIO MED SCIENCES, INC.

Allentown

University Partner: Lehigh University

Complete implementation of a new Enterprise Resource Planning system at this producer of innovative and specialized materials for burn and wound care, and aesthetic skin care. Expected growth over the next three to five years necessitates a robust information technology system to improve operational efficiency, provide scalability and flexibility of operation, and meet customers' demands.

BFTP Investment: \$25,000 → Total Budget: \$219,811

BOSCH REXROTH CORPORATION

Bethlehem

University Partner: Lehigh University

Develop and implement a process to automate data collection that will drive process improvements and enable predictive maintenance for machining centers throughout the company. Bosch Rexroth manufactures motion control equipment, including hydraulic and pneumatic components.

BFTP Investment: \$25,000 → Total Budget: \$145,119

CUSTOM PROCESSING SERVICES, INC.

Reading

University Partner: Lehigh University

Create new processes to manage internal logistics and minimize material handling costs during Custom Processing Services' projected continued growth. Custom Processing Services provides sophisticated air-jet milling, micronizing, blending, and testing of powdered materials on a contract and toll basis.

BFTP Investment: \$15,000 → Total Budget: \$54,046

EAST COAST EROSION CONTROL, LLC

Bernville

University Partner: Lehigh University

Improve back-end processes to enhance customer delivery performance, reduce cost-of-goods sold, increase efficiency, and maximize production capacity at this manufacturer of erosion control products for the construction industry. East Coast Erosion is one of the largest producers of erosion blankets in the U.S. This upgrade will allow the company to be the first in its industry to advance to this level, providing a competitive advantage and facilitating continued growth.

BFTP Investment: \$25,000 → Total Budget: \$145,292

EFFORT FOUNDRY, INC.

Bath

University Partner: Lehigh University

Implement improved production methods and product tracking capabilities at this supplier of high-integrity steel parts for the pump, power generation, and military sectors. Technology upgrades at Effort will enhance its ability to shorten lead times and reduce costs.

BFTP Investment: \$25,000 → Total Budget: \$90,119

EGGZACK, INC.

Ben Franklin TechVentures, Bethlehem

Expand EggZack's sales effort by adding more resellers and increasing its direct sales force. EggZack provides an automated sales and marketing system that is specially designed for companies that serve local markets. The web- and mobile-based platform automates the management of its clients' websites, search engine optimization, social media, local search, email marketing, blogs, video, and directory optimization to generate more local leads. The system then makes it easier to convert leads into sales.

BFTP Investment: \$50,000 → Total Budget: \$280,500

HB CUSTOM MEDIA, INC.

Ben Franklin TechVentures, Bethlehem

Expand the commercialization effort for producing and selling custom tissue culture media, reagents, cell culture supplements, and mouse embryo culture media to the Research-Use-Only market. These products are essential for life sciences companies in various applications, including drug development, cancer research, nerve cell regeneration investigation, and treatments for heart attacks.

BFTP Investment: \$25,000 → Total Budget: \$105,000

JESSE JAMES & CO., INC.

Bethlehem

University Partner: Lehigh University

Reduce manufacturing and fulfillment costs and improve speed, productivity, and quality at this designer and manufacturer of bead and button embellishments for craft stores, mega-stores, and online distribution.

BFTP Investment: \$25,000 → Total Budget: \$135,119



JUJAMA, INC.

Scranton

Continue to develop and commercialize a suite of customizable, fully supported event technologies for meetings and conferences that make events more productive. JUJAMA provides tools that enhance networking capabilities in the professional conference space, that support scheduling for corporate teams, and that incorporate third-party provider content into its proprietary platform. These new areas of expansion deliver more information to conference attendees.

BFTP Investment: \$100,000 → Total Budget: \$1,128,300

LUTRON ELECTRONICS COMPANY, INC.

Coopersburg

University Partner: Lehigh University

Complete design and implementation of an improved, streamlined service scheduling system for this leading supplier of light control products for consumers and corporate customers.

BFTP Investment: \$25,000 → Total Budget: \$95,119

MEDTRICS LAB, LLC

Lewisburg

Conduct an expanded market launch of Medtrics' enterprise-level clinical education platform that helps hospitals and universities respond to new accreditation and compliance requirements and manage the training of physicians, nurses, and other healthcare providers. Work includes completing the web application for physician training programs, developing both Apple mobile (iOS) and Android applications, and building additional features to support nursing schools.

BFTP Investment: \$25,000 → Total Budget: \$55,000

MINDBRIDGE INNOVATIONS, LLC

Allentown

Finalize a new sales strategy, revise financial models, and complete software development for the Coach AL™ interface between the at-home patient and physicians and therapists for the company's OrthoBike™ therapy system. This rehabilitative tool for physical therapists provides range-of-motion, strength, and gait rehabilitation to patients after total hip and knee replacement and other lower-extremity surgeries.

BFTP Investment: \$35,000 → Total Budget: \$146,500



INVESTMENTS

OPTIMO INFORMATION TECHNOLOGY, LLC

Bloomsburg

Expand OPTIMO's Legal Technology division. The company's new eDiscovery and Forensics Managed Services electronically wade through huge amounts of data to reconstruct electronic events in order to provide reliable information and evidence for legal, corporate, and government agencies in a cost-effective manner. OPTIMO delivers enterprise-level information technology products and services including software related to digital forensics, e-discovery, and litigation support.

BFTP Investment: \$100,000 → Total Budget: \$300,000

ORBWEAVER SOURCING, LLC

Ben Franklin TechVentures, Bethlehem

Develop a "supplier pricing infrastructure" in a cloud-based software solution for electronic circuit board manufacturers. This feature will allow end customers and other industry participants to collect a more robust set of data from component manufacturers and distributors. Current sourcing and procurement models in the electronics manufacturing industry are highly inefficient. Orbweaver's software platform will allow for more well-negotiated terms with suppliers, thereby reducing costs and increasing productivity for clients.

BFTP Investment: \$95,000 → Total Budget: \$538,400

PALRAM AMERICAS GROUP

Kutztown

University Partner: Lehigh University

Complete the development of standard operating procedures in order to maximize efficiencies at this manufacturer of polycarbonate and polyvinyl chloride plastic sheets. These standards will enhance safety and reduce both direct and indirect costs, leading to improved competitiveness and customer satisfaction.

BFTP Investment: \$12,500 → Total Budget: \$75,485

PRECISION POS, LLC

Jessup

Support marketing and sales efforts for the company's tablet point-of-sale and online ordering technology for the restaurant industry and related food and beverage businesses.

BFTP Investment: \$70,000 → Total Budget: \$360,000

RADIUS TOOTHBRUSH

Kutztown

University Partner: Lehigh University

Complete facility assessment and planning to accommodate future growth at this manufacturer of innovative, high-performance ergonomic toothbrushes. The work will allow Radius to streamline manufacturing and increase productivity.

BFTP Investment: \$18,500 → Total Budget: \$92,087

REA.DEEMING BEAUTY, INC.

Bethlehem

University Partner: Lehigh University

Streamline current manufacturing process and shipping procedures by designing and implementing new automation techniques at Rea.deeming Beauty, manufacturer of the award-winning elliptical-shaped beauty-blender® makeup applicator. Rea.deeming supplies high-quality products for the beauty, professional, and retail markets. This work will improve the company's ability to meet a steep increase in consumer demand and enhance its production and fulfillment capabilities while maintaining industry-leading quality assurance.

BFTP Investment: \$25,000 → Total Budget: \$125,796

SEKUR TECHNOLOGY, INC.

Allentown

Complete a sales and marketing strategy to launch a proprietary licensing, encryption, and storage solution to secure all types of digital media, including pdf documents, e-books, and audio/video files. The owner of the media can encrypt, track, and control the distribution of any file, on- or offline, preventing unauthorized transfer or download.

BFTP Investment: \$11,000 → Total Budget: \$31,000

SIMPLEX HOMES, INC.

Scranton

University Partner: Lehigh University

Map and analyze the designs of current processes to improve factory automation, material handling, storage, and inventory control. Simplex is a regional leader in high-quality modular construction and is positioning itself as an industry-leading builder of energy-efficient homes. The company built a prototype Net Zero home that is both environmentally conscious and economically prudent for homeowners.

BFTP Investment: \$25,000 → Total Budget: \$80,118

SINCE 2007,
BFTP/NEP CLIENTS
HAVE GENERATED
MORE THAN
\$1.357 BILLION
IN FOLLOW-ON
FUNDING.



SKAFFL, LLC

Ben Franklin TechVentures, Bethlehem

Add functionality to Skafl, a new mobile application through which teachers and students can exchange class materials, assignments, completed homework, assessments, and grades. This digital application addresses the growing use of tablets in K-12 classrooms and the needs of teachers as they develop tools and curricula to enhance real-time educational interaction. There are no other applications that address these needs comprehensively while also being simple to use for students, teachers, and administrators.

BFTP Investment: \$100,000 → Total Budget: \$216,100

CLIENT PROFILE

APPLIED SEPARATIONS, INC.

Allentown → appliedseparations.com

APPLYING TECHNOLOGY TO SAVE WATER, REDUCE ENERGY CONSUMPTION, AND CURB EFFLUENTS

APPLIED SEPARATIONS, INC. (ASI) is a world leader in supercritical fluid extraction. Carbon dioxide, in its supercritical fluid state, can extract caffeine from coffee and cinnamon oil from plants, clean the porous metals used in hip replacements, and dry aerogels used as insulation in spacecraft, among many other applications. ASI started in the original Ben Franklin Business Incubator with Ben Franklin seed funding and graduated to become an anchor tenant in the Bridgeworks Enterprise Center, a member of the Ben Franklin Business Incubator Network. The company expanded again and relocated to the Neighborhood Improvement Zone in center city Allentown. ASI has built two picogram-level cleanrooms in Allentown for original equipment manufacturing packaging of DNA forensic kits for ThermoFisher, a \$22 billion scientific equipment company.

ASI is now working as an established manufacturer with BFTP/NEP and Lafayette College on a new process for the waterless dyeing of textiles for clothing manufacturers and textile companies. Current fabric dyeing practices utilize large amounts of energy and water, 100-150 kilograms of water for every kilogram of dyed textile, and also create wastewater. The new process, which utilizes the company's core supercritical fluid extraction technology, significantly reduces these impacts. It utilizes no water in production, creates no wastewater, and reduces energy requirements by 50%.

Applied Separations employs 50 in well-paid, sustainable jobs in center city Allentown and brings in as many as 20 temporary workers in peak production. The company is saving energy and water, reducing waste, and returning textile manufacturing jobs to the U.S.



INVESTMENTS

TSG SOFTWARE

Ben Franklin TechVentures, Bethlehem

Implement processes to significantly increase marketing and sales lead generation in commercializing software for business cleaning services, property and facility managers, and building management contractors. TSG's Accelerator CC® brings traditionally manual processes into cloud software with mobile solutions to automate mission-critical activities. This eliminates workflow disruption.

BFTP Investment: \$75,000 → Total Budget: \$164,000

VIRTERRAS FOODS

Moosic

Support the development of a large, state-of-the-art hydroponic greenhouse for climate-smart, year-round agriculture in Pennsylvania. Virterras' site selection in Pennsylvania, innovative facility design, and environmentally sustainable growing practices will provide naturally ripened fresh produce to local stores with significant improvements in product taste and nutrition. The market for fresh, local food is growing rapidly. The U.S. now imports 65% of all fresh produce, and Virterras is part of a growing trend to bring local agriculture and jobs back to Pennsylvania.

BFTP Investment: \$50,000 → Total Budget: \$420,000



ALTERNATIVE ENERGY DEVELOPMENT PROGRAM INVESTMENTS

CEWA TECHNOLOGIES

Wyomissing

Complete design, construct, and test prototypes of a new type of point-concentrated solar power dish that will deliver power for industrial and institutional applications at a lower cost due to its innovative shape and construction. The dish is capable of providing thermal power for power generation, desalination, and process heat applications at a cost comparable to fossil fuel-based sources of energy without government subsidy. Such cost competitiveness is novel in solar power dishes and critical to the growth of this alternative energy source.

BFTP Investment: \$350,000 → Total Budget: \$797,000

COLYMER INDUSTRIES, LLC

Ben Franklin TechVentures, Bethlehem

Implement a marketing and sales strategy to commercialize a new, proprietary, non-asphalt roofing and waterproofing material called Tarzanite™. An improved coal tar formulation, Tarzanite is not water-soluble and is environmentally beneficial. The material is expected to outlast traditional asphalt-based materials by a factor of four.

BFTP Investment: \$100,000 → Total Budget: \$250,000

HYDRO RECOVERY LP

Blossburg

University Partner: The Pennsylvania State University

Further develop and optimize the economic extraction of useful materials from residual frac water used in the development of natural gas wells. Hydro Recovery's process converts the used water into a Hydraulic Stimulation Fluid (HSF™) that can subsequently be reused to extract more natural gas. This process eliminates the need to transport wastewater over long distances. Further, recycling frac water into a reusable product will save millions of gallons of freshwater each year and substantially reduce discharge of treated water into waterways.

BFTP Investment: \$50,000 → Total Budget: \$150,000

BUSINESS AND TECHNICAL ASSISTANCE INVESTMENTS

BIO-ENERGY HOLDINGS, INC.

Greentown

Contract review for this producer of the patented A-Ceptor™. The A-Ceptor is an oil/water/solids separator, interceptor, and clarifier that provides cost-effective water treatment and recycle/reuse to the biodiesel, food service, and oil and gas industries.

BISON ANALYTICS, LLC

Lewisburg

Provide website design and HubSpot integration for Bison Analytics' business intelligence software. The Bison Analytics System allows small business clients to easily utilize QuickBooks™ data for comprehensive financial consolidation, analysis, planning, and management.

COLYMER INDUSTRIES, LLC

Ben Franklin TechVentures, Bethlehem

Support Colymer's preparations for prospective investor presentations. Colymer is producing a new, proprietary, non-asphalt roofing and waterproofing material called Tarzanite™, which is not water-soluble and is environmentally beneficial.

HYDRO4GE

Archbald

Conduct a "Tiger Session" – an intensive enterprise-wide analysis by a team of business experts – for this provider of information management support through technical advisory services and custom software development.

KENNEDY TOOL & DIE

Birdsboro

Conduct a manufacturing assessment for this designer and manufacturer of blow molds for the plastics industry.

MAP DECISIONS, LLC

Ben Franklin TechVentures, Bethlehem

Provide assistance with legal documents for this producer of infrastructure asset and work management software. Map Decisions' secure, cloud-based mobile platform provides field mapping and data management services to state and local governments, utilities, and oil and gas, transportation, and construction industries.

PRECISION POS, LLC

Jessup

Provide a strategy session and business plan support for Precision POS' tablet point-of-sale and online ordering technology for the restaurant industry and related food and beverage businesses.

SALADAX BIOMEDICAL INC.

Ben Franklin TechVentures, Bethlehem

Conduct a "Tiger Session" for this producer of novel diagnostic blood tests. Saladax's MyCare tests help oncologists adjust chemotherapy drug dosing to achieve the optimum level of medication, which is critical to effectively treat the cancer while minimizing side effects.

SKAFFL, LLC

Bethlehem

Support social media marketing for this new mobile application through which teachers and students can exchange class materials, assignments, and assessments. This application addresses the growing use of tablets in K-12 classrooms and the needs of teachers as they develop tools to enhance real-time educational interaction.

SNAKE CREEK LASERS

Friendsville

Provide marketing support for the company's cryogenic laser. Snake Creek Lasers is a premier supplier of innovative miniaturized lasers and laser modules for defense and commercial applications.

TSG SOFTWARE

Ben Franklin TechVentures, Bethlehem

Deliver business development support to this provider of software for business cleaning services, and property and facility managers. TSG's Accelerator CC® automates traditionally manual processes into cloud software with mobile solutions, streamlining workflow.

US SPECIALTY FORMULATIONS, LLC

Ben Franklin TechVentures, Bethlehem

Provide Quickbooks™ support to this manufacturer of sterile injectable pharmaceuticals used in the medical community. As an FDA-registered manufacturer, USSF will employ advanced controls to comply with new federal quality standards for specialized and custom-compounded drugs.



SNEAK
PEEK!

BEN FRANKLIN TECHVENTURES

WEST WING EXPANSION

BEN FRANKLIN TECHVENTURES' current rentable space is nearly full once again, and BFTP/NEP projects even more needs in the future. To address this burgeoning demand, Ben Franklin staff are exploring funding sources to further expand TechVentures. This construction will provide much-needed business incubation, office, and meeting space for early-stage technology companies. The new TechVentures West Wing will allow BFTP/NEP's business incubator to accommodate accelerating company demand to fuel economic growth and job creation.



BEN FRANKLIN TECHVENTURES WAS
LEED GOLD CERTIFIED
IN 2013.



TECHVENTURES RENDERING BY SPILLMAN FARMER ARCHITECTS

BEN FRANKLIN TECHVENTURES®

BEN FRANKLIN TECHNOLOGY PARTNERS LAUNCHED one of the first business incubators in the nation in 1983 and developed it to be among the best in the world. In 2007, BFTP/NEP relocated the original incubator across the street on Lehigh University's Mountaintop Campus to Ben Franklin TechVentures, a former Bethlehem Steel laboratory.

Ben Franklin TechVentures' initial 35,000 square feet of rentable space helped address the region's increasing incubator and wet lab space needs by more than doubling the available wet lab space and more than tripling the office and dry laboratory space available at the original facility. Wet lab business incubation space, in particular, is extremely scarce and necessary in numerous growing technology sectors. Just 18 months after its grand opening, TechVentures was filled to near capacity.

Ben Franklin TechVentures, opened in October 2011, is a 47,000-square-foot addition to the original facility that increases the total space to 109,000 square feet. The architect was Spillman Farmer Architects and the construction manager was Allied Building Corporation, both based in

northeastern Pennsylvania. The addition has a photovoltaic solar array on its rooftop and the latest energy-management and light-harvesting technologies from Coopersburg, Pa.-based Lutron Electronics integrated throughout the building. It was LEED Gold Certified in 2013.

The Ben Franklin TechVentures expansion allowed Ben Franklin to accommodate start-up companies that create more highly paid, sustainable technology jobs in the region. Thirty-eight firms, employing more than 170 people, are currently located in Ben Franklin TechVentures. Since 1983, the Ben Franklin Business Incubator and TechVentures have graduated 64 successful companies, together grossing more than \$1.2 billion in recurring annual revenue and creating more than 6,400 jobs.

Continued

CLIENT PROFILE

VITRIUS TECHNOLOGIES, LLC

Wilkes-Barre → vitriustech.com

SMART WINDOWS THAT PRODUCE HEAT AND INCREASE ENERGY EFFICIENCY



VITRIUS TECHNOLOGIES provides smart window systems for the residential, commercial, and institutional markets. Vitrius' smart window systems utilize three proprietary innovations, creating windows that produce heat as well as greatly increase overall energy efficiency of the building. The windows have longevity and renewable energy profiles that are superior to competitors. Vitrius smart window systems are available in virtually any window configuration and profile material.

Vitrius windows incorporate Metalux architectural cladding, a metal-finishing technology that bonds metals to proprietary composite substrates, providing superior protection and durability while using 80% less metal than traditional processes. The windows integrate optically clear energy-producing glass, which can also be used in security glazing. Employing dynamic radiant glass technology, electrical resistance created in the window forms a thermal barrier between the inside and outside of the building, allowing for even more energy conservation. The technology can perform as a primary or auxiliary heat source, capable of heating entire buildings more efficiently. It is intelligently controlled and responds and reacts to its environment, as well as to user behavior.

Ben Franklin invested substantially in Vitrius and provided financial support for sales efforts and industry-required testing. The company has a demonstration site at Ben Franklin TechVentures that was installed in summer 2015 and is now commercializing its innovative products.

TECHVENTURES

Continued from previous page

VITAL TO THE REGIONAL ENTREPRENEURIAL ECOSYSTEM

Ben Franklin TechVentures and its staff bring together entrepreneurs, Lehigh University faculty and students, and other community partners to accelerate the growth of the region's technology economy. The facility's Innovation Institute, located on the fourth floor of Ben Franklin TechVentures², has emerged as a hub of entrepreneurial activity in northeastern Pennsylvania. The meeting, learning, and conference facilities serve clients and local partners, and the Institute has hosted and supported:

- Business Executives Networking Group
- Girl Develop It – Lehigh Valley
- Greater Lehigh Valley Chamber of Commerce
- Lehigh University Baker Institute for Entrepreneurship, Creativity, and Innovation
- Lehigh University Small Business Development Center

- Lehigh University Technical Entrepreneurship Program
- Lehigh University Venture Series
- Lehigh Valley Angel Investors
- Lehigh Valley Community Foundation
- Lehigh Valley Economic Development Corporation
- Lehigh Valley Tech: Hackathons, Meet-Ups, and Start-Up Weekends
- Pennsylvania Angel Network
- World Trade Club of the Lehigh Valley

Ben Franklin TechVentures and its Innovation Institute provide a venue, setting, and culture that have become an integral component of the entrepreneurial and technology ecosystem in northeastern Pennsylvania. Together, these efforts fuel innovation, catalyze the regional technology economy, and create the jobs of the future.

TECHVENTURES AWARDS & RECOGNITIONS

LEED GOLD CERTIFICATION

INTERNATIONAL AWARD

Two-time Incubator of the Year, National Business Incubation Association

NATIONAL AWARDS

- Building Entrepreneurial Capacity, State Science and Technology Institute
- U.S. Environmental Protection Agency ENERGY STAR Challenge Contest, first place

STATE AWARD

Project of the Year, Pennsylvania Economic Development Association

REGIONAL AWARDS

- Award of Merit, American Institute of Architects Eastern Pennsylvania
- Two *Mid Atlantic Real Estate Journal* awards
- Lehigh Valley Sustainability Award, Delaware Valley Green Building Council

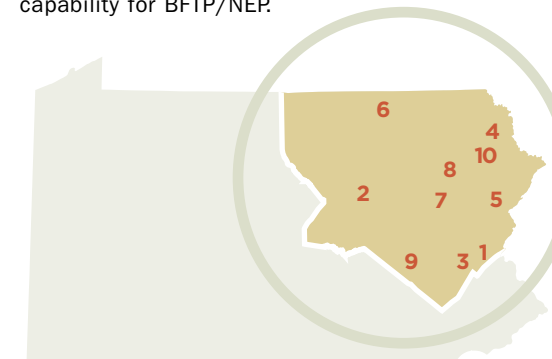
BEN FRANKLIN BUSINESS INCUBATOR NETWORK

The Ben Franklin Business Incubator in Bethlehem, predecessor of Ben Franklin TechVentures, was among the first business incubators in Pennsylvania. BFTP/NEP currently owns and manages both Ben Franklin TechVentures and the Bloomsburg Regional Technology Center (BRTC). BFTP/NEP collaborated with economic development colleagues to establish and support a network of incubator facilities throughout northeastern Pennsylvania.

The reduced operating costs of starting a company in a business incubator are typically what initially draw early-stage companies to an incubator facility. But the business development assistance and sharing of best practices among tenants are also key benefits. With more than 30 years of business incubator experience and two National Business Incubation Association (NBIA) Incubator of the Year Awards, Ben Franklin staff meet with incubator network managers to exchange ideas and information, work collaboratively, and provide best practices support.

BFTP/NEP is in the process of expanding its roster of member incubators in the Ben Franklin Business Incubator Network as new operations have emerged in the region. Prospective member incubators will meet established criteria for resident company support and adherence to established NBIA standards. With current membership at 10, the Ben Franklin Business Incubator Network is among the largest incubator networks in the nation.

Providing business incubators in which early-stage firms are nurtured substantially enhances companies' chances for success. This element of regional economic development is key to our mission and an area of extensive experience and capability for BFTP/NEP.



THE BEN FRANKLIN BUSINESS INCUBATOR NETWORK MEMBERS ARE:

- 1 BEN FRANKLIN TECHVENTURES**
116 Research Drive, Bethlehem, PA 18015
610.758.5421 → nep.benfranklin.org
- 2 THE BLOOMSBURG REGIONAL TECHNOLOGY CENTER**
240 Market St., Bloomsburg, PA 17815
610.849.9091 → nep.benfranklin.org
- 3 BRIDGEWORKS ENTERPRISE CENTER**
905 Harrison St., Allentown, PA 18103
610.770.1015 → thebridgeworks.com
- 4 CARBONDALE TECHNOLOGY TRANSFER CENTER**
10 Enterprise Drive, Carbondale, PA 18407
570.282.1255 → 4cttc.org
- 5 EAST STROUDSBURG UNIVERSITY INNOVATION CENTER**
562 Independence Road East, East Stroudsburg, PA 18301
570.422.7920 → esu.edu/busaccelerator
- 6 THE ENTERPRISE CENTER**
703 S. Elmer Ave., Sayre, PA 18840-2400
570.882.9324 → sayreenterprisecenter.com
- 7 THE GREATER HAZLETON CAN BE**
103 Rotary Drive, West Hazleton, PA 18202
570.455.1508 → canbe.biz
- 8 THE INNOVATION CENTER @ WILKES-BARRE**
7-13 S. Main St., Wilkes-Barre, PA 18701
570.270.GROW → icwb.biz
- 9 POTTSVILLE/SCHUYLKILL TECHNOLOGY INCUBATOR**
1 S. Second St., Pottsville, PA 17901
570.628.3355 → incubator-tech.com
- 10 THE SCRANTON ENTERPRISE CENTER**
201 Lackawanna Ave., Scranton, PA 18503
570.342.7711 → scrantonenterprisecenter.com

iXCHANGE

ON THURSDAY, MAY 7, BFTP/NEP hosted its annual iXchange at the Zoellner Arts Center on the Lehigh University campus in Bethlehem. More than 500 technology entrepreneurs, business people, venture capitalists, economic developers, political leaders, and regional influencers from Ben Franklin's 21-county service area attended.

Chad Paul, president and CEO of BFTP/NEP, began by describing how the Ben Franklin Technology Partners network has led Pennsylvania's economy from a focus on heavy manufacturing sectors that were declining to an economy with a strong and growing technology base. Ben Franklin invests in and supports early-stage technology firms, many of which are manufacturers, as well as established manufacturers to help them utilize innovation to competitive advantage in the global economy.

"A key to Ben Franklin's continued success is leverage," said Paul. "We leverage our financial resources with complementary investments from venture capitalists, angels, and other institutional investors, as well as from the clients themselves. We leverage our staff expertise and the resources of Pennsylvania's universities. We invest more than money in our clients; we provide them with comprehensive, enterprise-wide support."



↑ "Practical Futurist" and 2015 iXchange keynote speaker Michael Rogers helps businesses and organizations worldwide to think about and plan for the future.

"A KEY TO BEN FRANKLIN'S CONTINUED SUCCESS IS LEVERAGE." —CHAD PAUL

Paul also cited an independent study of the Pennsylvania Ben Franklin network, which determined that, over a five-year time period, the Commonwealth received a total of \$502 million in additional state tax revenue as a result of Ben Franklin's work. That represents a \$3.60 return in new state tax revenue for every dollar Pennsylvania invested in the program.

The iXchange combined the presentation of Ben Franklin's 21st annual Innovation Awards and executive networking sessions with a

keynote by Michael Rogers. Rogers is a technology pioneer and "practical futurist" who most recently served as futurist-in-residence for *The New York Times*. He is a best-selling novelist whose fiction explores the impact of technology on humans.

Rogers addressed the Internet of Things and what the digital lifestyle means for business and life. The virtualization of America and the world is

one of the biggest transitions in human history since urbanization, according to Rogers. With technology changing exponentially and people accepting it quickly, Rogers explored what the future will be like in eight to 10 years. He cited a ubiquitous virtual reality, more smart objects, and fundamental shifts in the way we engage in relationships.

Paul presented the 2015 Ben Franklin Technology Partners of Northeastern Pennsylvania Innovation Awards:

ENTREPRENEURIAL ACHIEVEMENT

The company that best exemplifies the quintessential entrepreneurial spirit: a combination of ingenuity, hard work, and innovation that has resulted in the creation of a successful and growing business venture.

HIGHWOOD USA, LLC, Hometown
John Quarmley, President

Highwood USA demonstrates the successful leverage of Ben Franklin support to accelerate the growth of a young firm. Highwood is a manufacturer of extruded-plastic synthetic-wood products that are used for outdoor furniture and hot tubs/spas, as well as in exterior lumber applications such as decks, fencing, gazebos, and garden sheds. In addition to three financial investments, Ben Franklin linked Highwood with three college and university resources for product, process, and quality improvements.

Founded in 2003, Highwood proactively and continuously innovates its processes, introduces new products, and identifies and develops untapped niches in the marketplace. The company utilizes unique combinations of materials and manufacturing processes to produce state-of-the-art synthetic-wood products. Highwood has expanded its facility twice to keep pace with growth and has pursued a variety of environmental sustainability projects including high-efficiency lighting, a photovoltaic solar farm, and zero landfill. The company also actively invests in its employees through training and development, in support of its High-Performance Work Team management philosophy.

Highwood has begun another plant expansion that will add 23,000 square feet. Through thoughtful planning, bold strategy, and skillful execution, the firm continues to grow. It will continue to provide high-value jobs in Schuylkill County for years to come.

INCUBATOR GRADUATE

The company that has best demonstrated successful Ben Franklin business incubation. The business has been operated skillfully and confidently, meeting all challenges, from the development of the product concept, execution of the business and technical plan, successful start-up and operation, to graduation from the incubator.

LUMINAIRE TESTING LABORATORY, INC.,
Allentown

Michael L. Grather, President and CEO

In 1989, Luminaire Testing Laboratory (LTL) was the first company to locate in Allentown's Bridgeworks Enterprise Center, which is a member of the Ben Franklin Business Incubator Network. LTL, a provider of testing services for manufacturers of lighting products, grew steadily to employ seven full-time and two part-time workers. In 2010, the owners sold the company to Underwriters Laboratories (UL), the well-known international electrical testing company. UL moved the company from Bridgeworks to a 38,000-square-foot facility in Lehigh County. In 2012, the business unit was continuing to increase revenue and had grown to 17 full-time and two part-time employees. Michael Grather recently launched another new company.

The LTL story demonstrates the importance of business incubators in providing support to early-stage firms. It portrays a successful business exit, executed by a founder who was able to attract an international business to the region that continued to create and retain good jobs. Finally, the LTL story illustrates the commitment of a serial entrepreneur who is now developing a second venture.

PRODUCT INNOVATION

The company that best demonstrates the commercialization of a unique, innovative product that creatively and effectively meets a market need.

LIFEAIRE SYSTEMS, LLC, Allentown
Kathryn C. Worrilow, Ph.D., Founder and CEO

LifeAire Systems discovers, develops, manufactures, and commercializes revolutionary air purification systems for the healthcare industry. Its systems remove pathogens and other contaminants from the air more effectively than any other available. The system complements surface decontamination protocols, creating a healthier environment for patients and medical staff and enabling significant improvement in clinical outcomes and patient care. There is considerable international interest in the system.

iXCHANGE

LifeAire Systems' products have been installed throughout the U.S. and are protecting the highly sensitive clinical setting of *In Vitro* Fertilization, resulting in an average of more than 50% improvement in clinical pregnancy rates. Other applications to reduce the spread of communicable diseases such as influenza, tuberculosis, and measles may also evolve. More than 1.7 million patients in the U.S. develop Hospital-Acquired Infections each year, costing \$37 to \$45 billion annually. The company's technology will also help address this enormous issue. LifeAire Systems' technology will impact a continuum of patient care, beginning with the protection of the embryo, to the infant in the neonatal intensive care unit, to the patient in the operating room, and to the elderly in long-term-care facilities.

INNOVATIVE APPLICATION OF TECHNOLOGY

The company that best demonstrates a "break-the-mold" approach to integrating new or existing technology into its business.

ETHOSGEN LLC, Wilkes-Barre
James Abrams, CEO and Founder

EthosGen is revolutionizing the \$1 billion renewable energy market with a patented and proprietary Thermal Energy to Electric Power System that captures and converts waste heat into scalable on-site electrical power. The generator manufactured by EthosGen can leverage an abundant resource of waste heat that is significantly underutilized or rejected energy. Commercial, industrial, and defense end-users experience the highest energy costs and most critical energy-resiliency challenges.

EthosGen's competitive advantage provides for the greatest temperature range and output flow of waste heat, allowing the lowest cost to manufacture and top operational productivity. As a renewable source, waste heat offers consistent energy surety over solar and wind power and consistent costs when compared with fossil fuels.

EthosGen won the 2014 Ben Franklin Venture Idol. In 2014, the company was selected from 2,500 applications as one of the top 25 technologies in Sir Richard Branson's Extreme Tech Challenge.



MANUFACTURING ACHIEVEMENT

The company that best exemplifies achievement in the manufacturing arena, showing a proven track record of success and an unbending commitment to achieving and maintaining excellence in manufacturing.

MEDICO INDUSTRIES, INC., Wilkes-Barre
Thomas Medico, President

Medico Industries produces metal parts for oil and gas drilling companies, the automotive industry, and other customers. A focus on constant improvement has enabled the company to establish a truly flexible manufacturing facility that has economically transitioned through many changes in industrial needs.

Medico focuses on consistency in output through the implementation of a quality system and appropriate professional certifications. The company worked with Ben Franklin and the Emerging Technology Applications Center at Northampton Community College to identify energy savings. The result was an 18% reduction in Medico's total energy costs. Medico credits the Ben Franklin work with the creation of 54 Pennsylvania jobs and the retention of 200 more over the past two years, as well as substantially enhanced competitiveness in a highly price-sensitive industry.

ENTREPRENEURIAL ADVOCATE

An individual from the community who has contributed his leadership, time, and expertise to helping entrepreneurs and the Ben Franklin Technology Partners accomplish their goals. This individual demonstrates a sincere and selfless desire to see the region thrive and backs up his commitment with appropriate action.

ANDREW STANTEN, President
Altitude Marketing, Emmaus

Andrew Stanten is an unwavering supporter of regional entrepreneurship and freely shares his expertise and experience widely with start-ups, established manufacturers, and students in northeastern Pennsylvania. Stanten is frequently at TechVentures, meeting with BFTP/NEP clients and providing pro-bono advice on strategy and marketing. Stanten also provides feedback to start-ups in Ben Franklin's strategic "Tiger Sessions."

Having earned his MBA from Lehigh University, Stanten is a frequent guest lecturer in marketing classes at his alma mater. He has led Marketing 101 courses at Lehigh's Small Business Development Center for six years and mentors student groups in Lehigh's IBE program. He is also involved with the board of The Rising Tide Community Loan Fund, a credit supplier to small businesses.

Stanten is extraordinarily generous in supporting entrepreneurs. He is committed to giving back, in particular to Ben Franklin clients, to Lehigh University, and to the northeastern Pennsylvania business community.

PARTNERSHIP

An individual whose strong vision, dedication, and commitment have helped the Ben Franklin Technology Partners accomplish its goals. This support demonstrates a sincere desire to see the region thrive.

EDWARD J. McCANN, JR., Retired COO
Berks County Workforce Investment Board, Reading

Ed McCann has been involved in Greater Reading workforce efforts for nearly 40 years, retiring in fall 2014. McCann has a unique skill in identifying how different companies and groups can network and benefit through partnerships. He has served on Ben Franklin's Greater Reading/Schuylkill Advisory Board for more than 20 years and continues to sit on a number of Chamber committees and to support community initiatives.

McCann has been a valuable resource in advising Ben Franklin about new programs and initiatives in Greater Reading that are of value to client companies. He is an active member of Ben Franklin's Medical Device Consortium and provided strategic input with the Wall Street West initiative.

McCann has been a staunch and loyal advocate for the Ben Franklin Technology Partners. His work has provided Greater Reading companies with many opportunities to benefit even more from Ben Franklin funding, expertise, and networking support.



2015
WINNER

GILSON BOARDS

EMPLOYS AERONAUTICAL ENGINEERING PRINCIPLES TO MAKE THREE-DIMENSIONAL SNOWBOARD BASES THAT PROVIDE A UNIQUE FEEL ON THE MOUNTAIN.

Venture Idol guests enjoy executive network sessions in the Innovation Institute at Ben Franklin TechVentures.

VENTURE IDOL

GILSON BOARDS, WINFIELD, won Ben Franklin Venture Idol, hosted by BFTP/NEP at Ben Franklin TechVentures' Innovation Institute. The sold-out event was held on Thursday evening, Nov. 12.

Ben Franklin Venture Idol is a cross between "Shark Tank®" and "American Idol®" but with great networking and food. The event illustrates a significant way in which early-stage entrepreneurs seek and obtain seed capital. Approximately 250 guests attended the sold-out Venture Idol, which included pre- and post-event executive networking receptions. Eight entrepreneurs were selected as competitors. In addition to Gilson Boards, the competitors were CDC Software, LLC, Bloomsburg; ChannelApe, Jessup; MindMe, Inc., Bethlehem; Orbweaver, Bethlehem; Precision POS, LLC, Jessup; US Specialty Formulations, LLC, Bethlehem; and viihealth, Inc., Bethlehem.

Three of the eight start-up technology companies – CDC Software, LLC; Gilson Boards; and Orbweaver – earned their way to finalist status in a round of judging in the afternoon. Following a networking session beginning at 5:30 p.m., the evening event began with a keynote address by Kathryn C. Worrilow, Ph.D., founder and chief executive officer of BFTP/NEP client LifeAire Systems, LLC, Allentown. The three company finalists then pitched their ventures to investors and the audience.

After short critiques from the panel of investors, the audience members "funded" the companies, crowdfunding style. With \$100 of "Ben Bucks," each guest distributed his or her "investment dollars" in whole or part among the three finalists. Ben Franklin will award \$15,000 in real dollars to the companies based on the audience vote.

Gilson Boards is a snowboard manufacturer that designs bases in three dimensions for an enhanced and unique "feel" on the mountain. Applying aeronautical engineering concepts, Gilson snowboards have a three-dimensional base that is faster, stronger, and more flexible than traditional products, storing more energy for the "pop" that is sought by snowboarders. The company merges the woodworking heritage of rural Pennsylvania with the precision of modern technology. Gilson snowboards take advantage of the concept that, in motion, snow behaves much like water and air, and, like airplanes and boats, the boards are curved to deliver a better ride. *Outside Magazine* ranked Gilson Boards among

the "Top 6 U.S. Ski and Snowboard Manufacturers," and *WIRED* lists Gilson Boards in "2015 Gear of the Year."

THE EVENING'S INVESTOR PANELISTS:

CLARK DEHAVEN, Soundboard Angel Fund and Inflection Point Strategic Advisors

MIKE GAUSLING, Originate Ventures

BRUCE LUEHRS, Rittenhouse Ventures

STEPHANIE OLEXA, Lehigh Valley Angel Investors and Lead to the Future

Chad Paul, Ben Franklin Technology Partners president and CEO; Nick Gilson, CEO of Gilson Boards; and Fred Beste, Ben Franklin Technology Partners board chairman



GOVERNOR'S IMPACT AWARDS

GOV. TOM WOLF RECOGNIZED 26 CLIENTS OR ALUMNI OF THE BEN FRANKLIN TECHNOLOGY PARTNERS OF NORTHEASTERN PENNSYLVANIA as companies that are creating high-value, sustainable jobs and making positive contributions to the state's economy. More than 700 attended the Governor's Impact Awards luncheon on May 21 in Hershey.

CLIENT & ALUMNI FINALISTS:

ENTREPRENEUR IMPACT AWARD

Bio Med Sciences, Inc., *Allentown*
Custom Processing Services, Inc., *Reading*
CyOptics, Inc., *Breinigsville*
EcoTech Marine, LLC, *Allentown*
Gilson Boards, LLC, *Winfield*
Golden Technologies, *Old Forge*
Snake Creek Lasers, *Friendsville*

SMALL BUSINESS IMPACT AWARD

Altitude Marketing, *Emmaus*
Fragrance Manufacturing, Inc., *Allentown*
JUJAMA, *Scranton*
Orbel Corporation, *Easton*
ProtoCAM, *Allentown*
Suburban Testing Laboratories, *Reading*

EXPORT IMPACT AWARD

Brush Industries, Inc., *Sunbury*
C.F. Martin & Co., *Nazareth*
Channel Veneers USA, *Troy*
Dynalene, Inc., *Whitehall*
EthosGen, LLC, *Wilkes-Barre*
Lockheed Martin, *Archbald*
MegaPhase, *Stroudsburg*
Radius Toothbrush, *Kutztown*

JOBS THAT PAY AWARD

Follett Corporation, *Easton*
Solar Innovations, *Pine Grove*

COMMUNITY IMPACT AWARD

Gentex, *Simpson*
Just Born Incorporated, *Bethlehem*
Playworld Systems, *Lewisburg*



ELEVEN OF THESE COMPANIES WON FIRST-PLACE HONORS:

1 C.F. MARTIN & CO. • NAZARETH
Export Impact Award
Lehigh Valley Region

2 CHANNEL VENEERS USA • TROY
Export Impact Award
Northern Tier Region

3 CYOPTICS, INC. • BREINIGSVILLE
Entrepreneur Impact Award
Lehigh Valley Region

4 FOLLETT CORPORATION • EASTON
Jobs That Pay Award
Lehigh Valley Region

5 GOLDEN TECHNOLOGIES • OLD FORGE
Entrepreneur Impact Award
Northeast Region

6 JUST BORN INCORPORATED • BETHLEHEM
Community Impact Award
Lehigh Valley Region

7 LOCKHEED MARTIN • ARCHBALD
Export Impact Award
Northeast Region

8 ORBEL CORPORATION • EASTON
Small Business Impact Award
Lehigh Valley Region

9 PLAYWORLD SYSTEMS • LEWISBURG
Community Impact Award
Central Region

10 RADIUS TOOTHBRUSH • KUTZTOWN
Export Impact Award
Southeast Region

11 SOLAR INNOVATIONS • PINE GROVE
Jobs That Pay Award
Northeast Region

BEN FRANKLIN IMPACT

→ The Ben Franklin Technology Partners provides early-stage technology firms with access to seed capital, business and technical expertise, and a robust network of expert resources. We also enhance the competitiveness of established manufacturers by developing and implementing key product and process innovation strategies. For more than 32 years, the Ben Franklin Technology Partners has delivered results, earning international recognition as the gold standard in technology-based economic development.

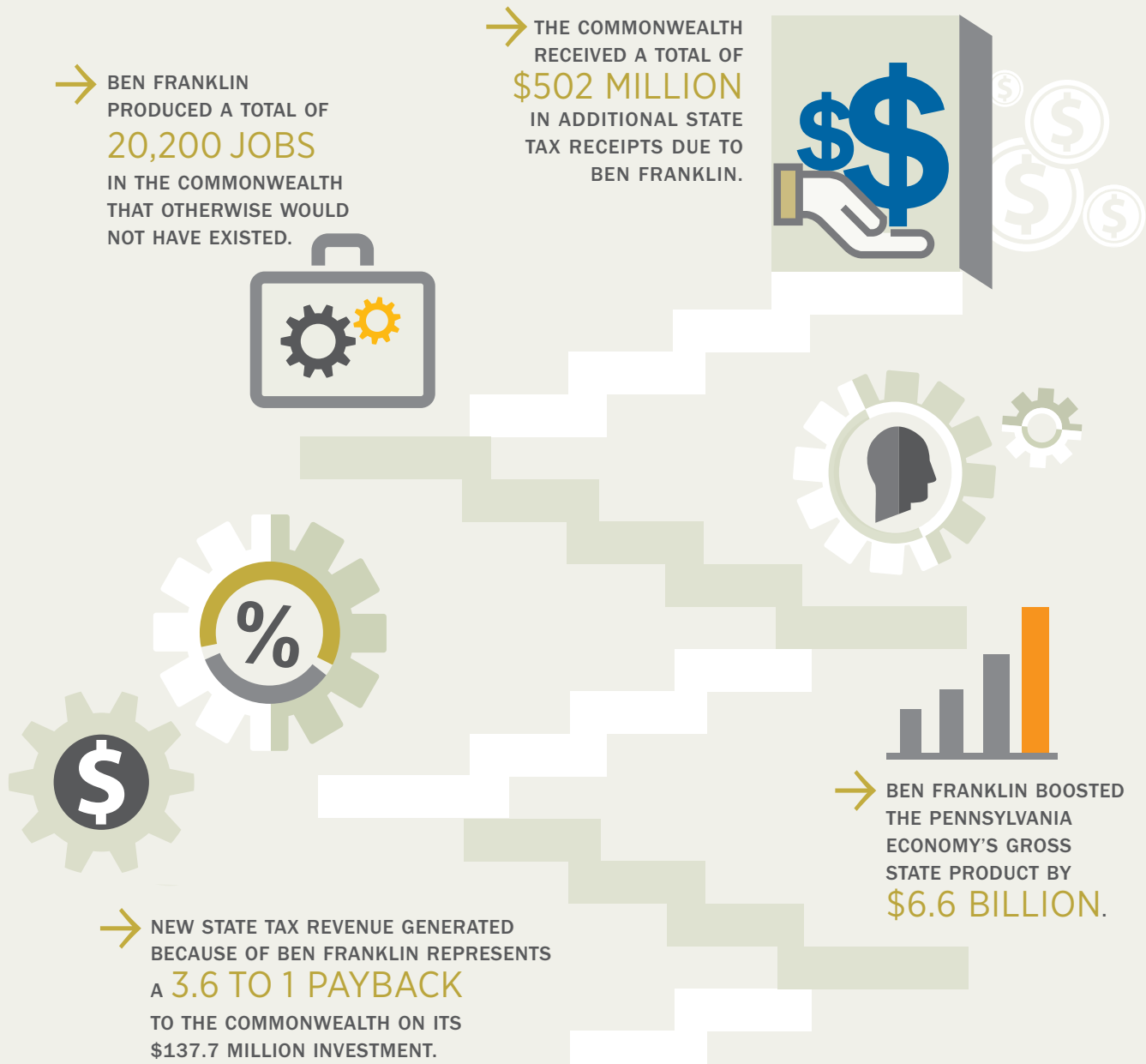
READ
MORE



STATEWIDE RESULTS

THE BEN FRANKLIN TECHNOLOGY PARTNERS commissioned an independent, third-party evaluation of its impact on the state's economy that was conducted by the Pennsylvania Economy League and KLIOS Consulting. The report focused on Ben Franklin's role in providing financial investments and related services to early-stage technology firms and established manufacturers in Pennsylvania.

THE REPORT DETERMINED THAT, FROM 2007 TO 2011:



THE REPORT ALSO DETERMINED THAT, SINCE 1989:

- BEN FRANKLIN HAS GENERATED **51,000 ADDITIONAL JOBS** IN CLIENT FIRMS.
- BEN FRANKLIN HAS BOOSTED THE STATE'S ECONOMY BY MORE THAN **\$23.5 BILLION**.
- BEN FRANKLIN GENERATED **89,000 ADDITIONAL JOBS** AS A RESULT OF INCREASED PURCHASING AND INVESTMENT BY CLIENT FIRMS, YIELDING A TOTAL OF **140,000 NEW JOBS** ATTRIBUTABLE TO BFTP'S WORK.



THE PA BEN FRANKLIN TECHNOLOGY PARTNERS NETWORK HAS RETURNED **\$3.60** TO THE STATE TREASURY FOR EVERY **\$1.00** INVESTED IN THE PROGRAM.

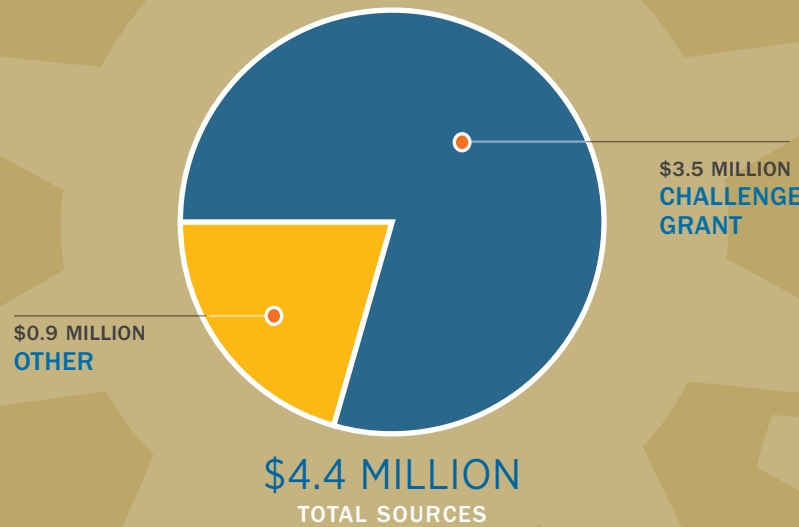
THE PENNSYLVANIA DEPARTMENT OF COMMUNITY AND ECONOMIC DEVELOPMENT, which funds and oversees Ben Franklin Technology Partners statewide, has earned international acclaim for the success of the program in creating and retaining highly paid, sustainable technology-based jobs throughout the Commonwealth.

BEN FRANKLIN OF NORTHEASTERN PENNSYLVANIA

FINANCIAL INFORMATION

FISCAL YEAR 2014-15

REVENUE SOURCES



NE PA RESULTS

THE BEN FRANKLIN TECHNOLOGY PARTNERS OF NORTHEASTERN PENNSYLVANIA surveys its client companies on the economic impacts that are accomplished as a direct result of its investments. These figures are reported to the Pennsylvania Department of Community and Economic Development and are used to evaluate Ben Franklin's effectiveness. BFTP/NEP has achieved the following results:

	2014	CUMULATIVE (since 1983)
NEW JOBS CREATED	386	16,600
EXISTING JOBS RETAINED	803	22,958
NEW COMPANIES STARTED	12	470
NEW PRODUCTS AND PROCESSES DEVELOPED	77	1,356
		(since 2007)
COMPANIES ASSISTED	290	2,175
FOLLOW-ON FUNDING	\$67.3 MILLION	\$1.357 BILLION

CHAD PAUL SELECTED FOR *LEHIGH VALLEY* BUSINESS HALL OF FAME

R. CHADWICK PAUL, JR., president and CEO of BFTP/NEP, was inducted into the 2015 *Lehigh Valley Business* Hall of Fame on Dec. 8, 2015. Paul was honored as a consummate entrepreneur who truly understands the dynamics of developing new ventures and who is genuinely interested in sharing his knowledge to help others. He has been a key player in catalyzing the Lehigh Valley economy's transition from a focus on heavy manufacturing to technology-based sectors. He has encouraged and supported entrepreneurship in young people through Junior Achievement and Lehigh University. He has played a pivotal role in many community organizations that enrich our regional economy as well as our quality of life.

"CHAD PAUL EPITOMIZES THE SPIRIT AND INTENT OF THE BUSINESS HALL OF FAME. HE JOINS A SELECT GROUP OF BUSINESS PEOPLE WHO HAVE MADE A SUSTAINED AND SIGNIFICANT POSITIVE IMPACT ON THE LEHIGH VALLEY BUSINESS AND CULTURAL COMMUNITY."

—MIKE O'ROURKE
Lehigh Valley Business publisher

BOARDS

BOARD OF DIRECTORS

Frederick J. Beste III
Board Chairman
CEO of the General Partners, Mid-Atlantic
Venture Funds

Ronald L. Bauer
Retired, Bosch Rexroth Corp.

Dean B. Girton
President, Girton Manufacturing Co., Inc.

Kenneth P. Guito
General Manager
Sanofi-Topaz, Inc.
Sanofi Pasteur, Inc.

Jan S. Heller
Finance Chair
Retired, Wells Fargo

Patricia Johnson
Vice President for Finance and
Administration
Lehigh University

Barbara T. Lampe
Board Vice Chair
Vice President
Weyerbacher Brewing Company, Inc.

Peter Molinaro, Jr.
Chief Executive Officer
Adhezion Biomedical, LLC

R. Chadwick Paul, Jr.
President and Chief Executive Officer
Ben Franklin Technology Partners of
Northeastern PA

James J. Peters
CEO, Geisinger Medical Management Corp.
& S.V.P., Strategic Industry Partnerships
& Negotiations
Geisinger Health System

Alan J. Snyder, Ph.D.
Vice President and Associate Provost
for Research and Graduate Studies
Lehigh University

CLIENT PROFILE

HYDRO RECOVERY LP

Blossburg → hydrorecoverylp.com

AN ENVIRONMENTALLY FRIENDLY PROCESS THAT TREATS AND STORES NATURAL GAS FRAC WATER FOR REUSE



HYDRO RECOVERY LP has proven experience providing economical and environmentally friendly solutions in the management of oil and gas liquid waste. The company's process treats the residual wastewater used in the development and extraction from natural gas wells into a product called Hydraulic Stimulation Fluid (HSF™) that can subsequently be reused to extract more natural gas. This process eliminates the need to transport wastewater over long distances to dispose of in injection wells. Further, recycling frac water into a reusable product saves millions of gallons of freshwater each year.

The company plans to build multiple regional plants that will be strategically located along main routes where natural gas wells are being drilled in the Marcellus Shale formation in Pennsylvania, Ohio, and West Virginia. The goal is to minimize transportation, thereby increasing convenience for customers, reducing trucking expenses, and diminishing truck traffic in local communities – all while being more environmentally friendly.

Hydro Recovery has built three plants since October 2010: in Blossburg, Tioga County – operational June 2011; Antrim, in Duncan Township, Tioga County – operational March 2013; and Burgettstown, in Hanover Township, Washington County – operational in August 2015. At full capacity, each plant is designed to receive and treat approximately 10,000 barrels per day. In total, Hydro Recovery has created more than 60 new full-time skilled jobs, while adding significant additional benefits to the local real estate and payroll tax bases.

ADVISORY BOARDS

GREATER READING/BERKS & SCHUYLKILL REGION

The Honorable David G. Argall
State Senator

Anthony Baran
Chief Executive Officer, Extol International, Inc.

Nicholas K. Bentley
President, American Polarizers, Inc.

Robert S. Carl, Jr.
Executive Director, Schuylkill Chamber of Commerce

Heather A. Chandler
President, Sealstrip Corporation

Stephen Cygan
President, Appeeling Fruit

Michael Duddy
Project Manager, WORLD electronics

Daniel W. Fogerty
Chief Operating Officer, Berks County Workforce
Investment Board

Walter F. Fullam
Director of Continuing Education
The Pennsylvania State University, Berks Campus

Andrea Funk
Chief Executive Officer, Cambridge-Lee Industries, LLC

Ellen T. Horan
President and CEO, Greater Reading Chamber
of Commerce & Industry

Steve R. Horvat, CPA
Partner, Baker Tilly

Richard A. Leiby, Jr.
Vice President, Metals Operations
East Penn Manufacturing Company

William C. Long
Corporate Banking Group Manager,
Senior Region Executive, M&T Bank

Thomas C. McKeon, AICP, CEcD
Executive Director, Berks County Industrial
Development Authority

Peter Molinaro, Jr.
Regional Advisory Board Chairman
Chief Executive Officer, Adhezion Biomedical, LLC

Michael A. Mullen
President, SFS Intec, Inc.

Douglas R. Myers
Economic Development Analyst, First Energy

Brian Noecker
Learning and Development Manager, East Penn
Manufacturing Company

Thomas Palamar
Pottsville City Administrator, Bureau of Economic
and Community Development

Richard L. Patterson
Vice President, General Manager-Operations
Alcon Surgical

John Quarmley
President, Highwood Industries

Timothy D. Romig
Executive Vice President, Chief Lending Officer,
Berks and Schuylkill Markets, Customer USA Bank

Donald F. Schalk
Director of Business and Corporate Development
Alvernia University

The Honorable Judith L. Schwank
State Senator

Jon C. Scott
President, Berks Economic Partnership

Richard Stump III
President, Suburban Testing Labs

Gregory J. Shemanski
President, Custom Processing Services, Inc.

Edward J. Swoyer, Jr.
President, Greater Berks Development Fund

Anna D. Weitz, D.Ed.
President, Reading Area Community College

Frank J. Zukas
President, Schuylkill Economic Development
Corporation

BOARDS

LEHIGH VALLEY REGION

John Barkanic
*Director, Emerging Technology Applications Center
Northampton Community College*

Donald M. Bernhard
*Community Development Director, Downtown Allentown
Community Development Initiative*

Patrick Clasen
Principal, EcoTech Marine LLC

Ed J. Coringrato
Private Consultant

Thomas J. Garrity
President, Compass Point Consulting, LLC

Michael J. Gausling
Managing Partner, Originate Ventures

Kenneth P. Guito
*General Manager, Sanofi-Topaz, Inc.
Sanofi Pasteur, Inc.*

Ned D. Heindel, Ph.D.
Professor of Chemistry, Lehigh University

Kathy Henderson
*Director of Economic Development, Carbon County
Chamber & Economic Development*

Bernard M. Lesavoy
Partner, Lesavoy Butz & Seitz LLC

Victor Mazziotti
Commissioner, Lehigh County

Mary Frances Postupack
*Chief Operating Officer, Center for Research
and Economic Development
East Stroudsburg University*

Stefan Rochus
*Vice President, Business Development
Avago Technologies*

Matthew A. Tuerk
*VP of Administration and Investor Relations
Lehigh Valley Economic Development Corporation*

Kerry A. Wrobel
Executive Vice President, LV Industrial Park, Inc.

POCONO/NORTHEAST REGION

John L. Augustine
*Community Outreach Manager
Marcellus Shale Coalition*

Kristine L. Augustine
Vice President, Scranton Chamber of Commerce

The Honorable Elisabeth J. Baker
State Senator

The Honorable John P. Blake
State Senator

Jeffrey K. Box
*President/CEO
Northeastern Pennsylvania Alliance*

Austin J. Burke
The Scranton Plan

The Honorable Matthew A. Cartwright
U.S. Congressman

Michael Duffy
Founder, Keystone Automation

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BEN FRANKLIN: UNITED STATES EDA SUCCESS STORY

IN ITS NOVEMBER 2015 E-NEWSLETTER, the U.S. Economic Development Administration (EDA) cited the Ben Franklin Technology Partners as an economic development success story. Over the years, Pennsylvania has faced economic challenges as manufacturing and industrial jobs have left the region. BFTP has helped the region to build new businesses and diversify its economy by providing both early-stage and established companies with funding, business and technical expertise, and access to a network of innovative, expert resources. BFTP has created 140,000 jobs since 1989 and has boosted the Pennsylvania economy by \$6.6 billion. As BFTP has grown, the EDA has provided grants to support its expansion, including substantial support for Ben Franklin TechVentures.

**"IF GROWTH AND
PROGRESS ARE A
MEASURE OF SUCCESS,
THEN BEN FRANKLIN
TECHNOLOGY PARTNERS
MAY BE ONE OF THE
MOST SUCCESSFUL
PROJECTS EDA HAS
EVER SUPPORTED."**

—U.S. EDA

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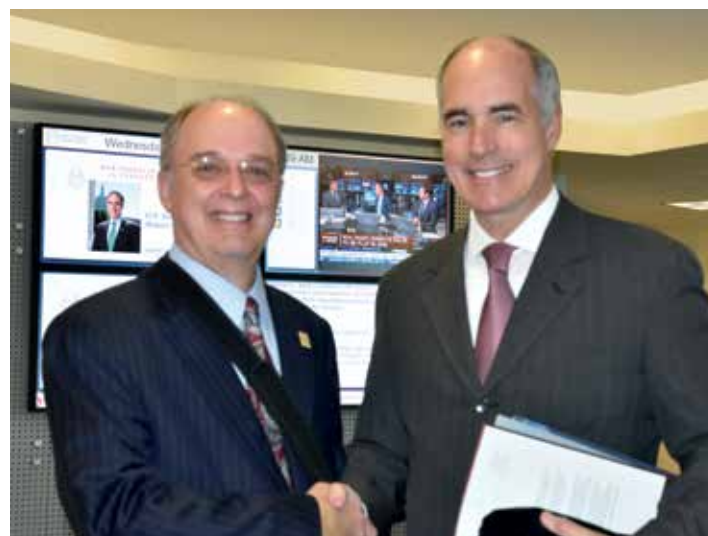
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→
R. Chadwick Paul, Jr. and U.S. Sen. Robert P. Casey, Jr.
in Ben Franklin TechVentures Frederick J. Beste III Lobby
during Sen. Casey's October 2015 visit.



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Ben Franklin
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BEN FRANKLIN TECHNOLOGY PARTNERS IMPACT: 10,000+ NORTHEASTERN PA TECH-BASED MANUFACTURING JOBS (1994-2014)

ENTERPRISE-WIDE SOLUTIONS IN ESTABLISHED MANUFACTURERS



BFTP/NEP MADE
333 INVESTMENTS
IN MANUFACTURERS

TOTALING
\$20,047,555

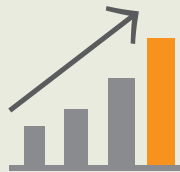
MATCHED WITH
\$77,744,574
BY CLIENTS



CREATED
4,846
NEW
MANUFACTURING
JOBS



RETAINED
5,228
EXISTING
MANUFACTURING
JOBS



STATEWIDE RESULTS
page 25



CLIENT
GROWTH
CHART
page 4



MORE NORTHEAST PA RESULTS
page 28



NEW PRODUCT DEVELOPMENT AND COMMERCIALIZATION IN EARLY-STAGE FIRMS



76%
OF BFTP/NEP
START-UP CLIENTS
BECAME THE TECH-BASED
MANUFACTURERS
OF TOMORROW.

ENERGY
PROFILES
page 5

