



Development
Services Agency

John R. Kasich, Governor

David Goodman, Director



Third Frontier
Innovation Creating Opportunity

www.OhioThirdFrontier.com

OHIO THIRD FRONTIER 2013 ANNUAL REPORT

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Ohio Third Frontier

The largest and most broad-based initiative within the Office of Technology Investments is Ohio Third Frontier. During Fiscal Year 2013, the Ohio Third Frontier Commission approved \$131 million in awards to assist in the formation and growth of new technology-based companies that will be a strong foundation for Ohio job creation.

Highlights of Third Frontier programs that assisted Ohio high-tech businesses in Fiscal Year 2013:

The **Entrepreneurial Signature Program** supports six regional organizations that offer Ohio entrepreneurs services to accelerate the growth of early-stage Ohio technology companies.

Services include: help defining a business model; concept/market/price validation; financial planning; intellectual property evaluation; strategy, legal, tax and accounting services; talent recruitment; investor recruitment; and assistance in raising capital. The program invested more than \$34 million to assist technology entrepreneurs through the end of Calendar Year 2014.

The **Pre-Seed Fund Capitalization Program** provides capital to for-profit and nonprofit fund managers to increase the availability of professionally managed capital and associated services to accelerate the growth of early-stage Ohio technology companies. A record high investment of \$36 million was approved by the Ohio Third Frontier Commission to provide nine proven Ohio fund managers with capital to invest in Ohio businesses. This investment will provide leverage to bring more than \$70 million in pre-seed capital, helping early-stage companies grow here in Ohio. In order to create sustainability, the program transitioned from grants to loans.

The **Tech Validation and Startup Fund** was created in Fiscal Year 2012 to help Ohio-based startup companies commercialize technologies developed by Ohio research institutions. The fourth round of competition was held in Fiscal Year 2013 and resulted in the awarding of nearly \$270,000 to four Ohio research institutions to bring new technologies to commercial use and create new Ohio companies. In addition, nearly \$600,000 was approved for six Ohio startup companies actively commercializing technologies developed through Ohio research institutions.

Mentoring young entrepreneurs as they launch their businesses and secure critical funding is the mission of the **Ohio New Entrepreneurs Fund (ONE Fund)**. Up to 10 teams of young entrepreneurs are competitively chosen through business accelerators, which are consulting companies that assist businesses to grow to the next level. Selected teams of entrepreneurs work under the guidance of seasoned entrepreneurs, industry experts and investors to launch a new, job-creating business venture. In Fiscal Year 2013, new accelerators accepted to the program include Bizdom in Cleveland, Founders Factory in Columbus, the Brandery in Cincinnati and Shaker LaunchHouse in Shaker Heights. Investments of \$800,000 were made through the program. In addition, an online network connecting college applicants with performing arts programs launched through the Ohio New Entrepreneurs Fund. The company received \$2 million in investments from TechColumbus and NCT Ventures as well as from private investors.

The **Innovation Platform Program** supports the collaboration between universities or not-for-profit research institutions with private businesses to bring new technologies to market. In Fiscal Year 2013, more than \$34 million was awarded to support 12 collaborative projects.

In addition, the Ohio Third Frontier launched three new programs for which we are currently taking applications:

The **Commercial Acceleration Loan Fund** is a \$20 million fund providing startup companies with later-stage debt financing to continue their growth and more established companies with funding to launch new products.

The \$15 million **Technology Asset Grant** funds shared infrastructure projects needed to develop new technologies. Funding can go towards facilities and/or equipment that at least two companies or an Ohio federal procurement agency believes is critical to developing the technology. The program provides up to \$5 million per project for up to three years.



The \$50 million **Technology Commercialization Center** program helps move university or research institution technology to the market, benefiting growing Ohio technology industries. Centers will have ability to advance the products and services, leading to new company formation and capitalization, as well as company expansion and attraction. The program will support a small number of major centers, providing up to \$25 million for no more than four years.

Ohio Third Frontier awards are detailed in the *Appendix*.

Thomas Edison Program

The **Ohio Incubator Program** is transitioning from the Thomas Edison Program to Ohio Third Frontier. Incubators provide access to critical business services that help tenant companies become thriving, self-sustaining business members of Ohio communities. This fits well with the many Ohio Third Frontier programs that support Ohio entrepreneurs as they work to create jobs and grow their companies. The **Industrial Technology and Enterprise Advisory Council** has recommended transitional funding to ensure the shift from the Edison Program to Ohio Third Frontier will not impact the delivery of service to customers. Look for the transition to be complete in early 2014. This transition sets the stage for the Thomas Edison Program to provide more support in the Ohio manufacturing sector by expanding the Manufacturing Extension Partnership (MEP), which assists manufacturing companies.

Ohio Venture Capital Program

The Ohio Venture Capital Program was created by the Ohio General Assembly in 2003 and commits money to Ohio-based venture capital firms, with the goal of providing early-stage Ohio companies with funding to grow and mature. The program is overseen by the Ohio Venture Capital Authority, and Buckeye Venture Partners serves as the sole program administrator. Investment guidelines are set forth in law and guided by the program administrator under the supervision of the Ohio Venture Capital Authority. The Ohio Development Services Agency has a statutory advisory responsibility and provides staff support.

As of March 31, 2013, the program had invested \$97.8 million with 27 different venture capital firms, which in turn have invested in 71 early-stage companies located throughout Ohio. Those venture capital firms have invested \$220.4 million in Ohio companies.

In Fiscal Year 2013, the Ohio Venture Capital Authority worked to refinance its debt to take advantage of lower interest rates.

It is anticipated the Ohio Venture Capital Authority will file its annual report on January 1, 2014.



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Appendix – Ohio Third Frontier

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OHIO THIRD FRONTIER - PROGRAM SUMMARY
 \$2.3 billion initiative to foster the formation, creation and attraction of new technology-based companies and jobs as well as to support existing industries to transform themselves with new, globally competitive products
 Cumulative through December 2012

TFP Program	State Funds Awarded	State Funds Expended	Cost Share Reported	Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Avg Salary
Advanced Energy Cluster Program	\$41,499,968	\$33,997,400	\$33,048,762	\$131,751,528	184	23	115	9	324	\$53,627
Advanced Imaging Cluster Program	\$13,542,470	\$6,577,684	\$9,608,250	\$31,681,970	56	6	65	11	138	\$55,698
Advanced Materials Cluster Program	\$14,579,672	\$10,075,381	\$12,177,549	\$29,552,750	32	3	37	11	82	\$68,198
Advanced Sensors Cluster Program	\$8,977,738	\$6,871,764	\$8,140,872	\$9,116,178	29	0	54	6	89	\$65,637
Biomedical Cluster Program	\$12,960,148	\$7,199,764	\$12,808,156	\$31,847,914	54	0	48	7	109	\$50,874
Biomedical Research Commercialization Program	\$151,749,921	\$146,769,460	\$214,840,582	\$1,002,353,687	246	678	716	15	1,655	\$64,696
Engineering Research Commercialization Program	\$80,677,370	\$79,009,081	\$97,961,251	\$375,416,766	358	41	215	32	646	\$68,498
Entrepreneurial Signature Program	\$146,532,580	\$110,019,089	\$66,690,049	\$1,759,445,959	2,072	36	1,812	357	4,276	\$55,299
Fuel Cell Cluster Program	\$50,762,794	\$47,954,718	\$38,169,874	\$205,478,604	200	14	148	18	380	\$60,054
Industrial Research & Development Center Program	\$29,762,365	\$9,144,099	\$25,480,736	\$22,921,241	125	10	249	8	392	\$62,301
Open Innovation Incentive	\$3,864,663	\$273,292	--	\$0	0	0	0	0	0	--
ONEFund	\$740,000	\$740,000	--	\$4,855,000	16	0	0	0	16	\$30,625
Ohio Research Commercialization Grant Program	\$13,327,588	\$13,095,569	\$6,348,761	\$209,227,949	202	0	84	20	306	\$58,157
Ohio Research Scholars Program	\$140,085,334	\$76,366,453	\$55,654,021	\$79,648,555	9	140	54	7	210	\$75,479
Photovoltaics Cluster Program	\$10,239,702	\$6,677,248	\$7,237,112	\$7,829,431	29	1	21	2	52	\$57,684
Pre-Seed Fund	\$64,128,682	\$54,058,248	\$199,519,218	\$2,761,444,407	3,466	3	925	271	4,665	\$69,378
Third Frontier Action Fund	\$18,582,343	\$18,117,618	\$33,284,792	\$138,534,215	279	15	134	1	429	\$52,210
Targeted Industry Attraction Program	\$8,610,000	\$5,439,000	\$3,623,415	\$29,086,197	401	0	382	1	964	\$49,272
Technology Validation & Startup Fund	\$798,109	\$0	\$0	\$0	0	0	0	0	0	--
Wright Centers of Innovation - Biomedical	\$87,302,967	\$87,302,967	\$183,401,015	\$441,747,211	227	324	199	5	755	\$100,894
Wright Centers of Innovation - Engineering	\$148,094,300	\$134,094,619	\$274,983,476	\$956,598,060	754	458	135	3	1,350	\$58,603
Wright Mega Center of Innovation	\$59,999,086	\$33,768,800	\$93,910,629	\$329,458,532	268	13	0	0	281	\$76,804
Wright Projects Program	\$102,378,797	\$81,662,349	\$138,098,035	\$221,766,593	344	163	131	11	649	\$50,478
Grand Totals	\$1,209,196,997	\$971,234,602	\$1,513,986,555	\$8,779,762,749	9,349	1,927	5,523	794	17,766	\$62,309

ADVANCED ENERGY CLUSTER PROGRAM
Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of advanced energy components
March 2008 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/11	Ohio State University Research Foundation	Engineering Clostridia for Economic Production of Biobutanol as a Biofuel	\$ 1,000,000	\$ 1,000,000	\$ 1,138,129	\$ 2,800,000	6	3	2	1	12	\$ 40,000
06/30/11	Xunlight 26 Solar, LLC	Flexible Thin-Film CdTe Modules	\$ 996,924	\$ 996,924	\$ 535,055	\$ 1,700,000	5	0	0	0	5	\$ 57,000
04/21/10	Replex Mirror Company dba Replex Plastics	Concentrated Solar Power	\$ 350,000	\$ 349,901	\$ 175,018	\$ 234,171	1	0	0	0	1	\$ 41,111
04/21/10	Applied Sciences, Inc.	Development of Specialty Carbons for Energy Storage	\$ 999,999	\$ 999,999	\$ 550,070	\$ 1,069,808	0	0	2	0	2	\$ 35,495
04/21/10	Physical, LLC	Development of Non-destructive Algal Oil Extraction Process	\$ 250,000	\$ 250,000	\$ 125,000	\$ 23,881,999	2	0	1	0	3	\$ 72,066
04/21/12	Aristeye Systems, Inc.	App. of Static, Hydrodynamic Cavt. to Improve Efficiency, Product. & Yld. in the Prod. of Ethanol	\$ 1,000,000	\$ 1,000,000	\$ 554,919	\$ 2,325,053	11	1	0	0	12	\$ 42,991
10/21/11	Ohio University	Facility for the Development & Commercialization of an Ammonia Based Fuel Integrated Power System	\$ 972,922	\$ 972,922	\$ 600,853	\$ 5,905,311	6	6	1	0	13	\$ 55,546
04/21/11	Catalca Corporation	Durability & Performance Evaluation of Catalysts on Metal Foil	\$ 759,502	\$ 759,501	\$ 396,909	\$ 262,082	0	0	5	0	5	\$ 40,000
04/21/10	University of Toledo	A Novel Cellulose Biomass Fermentation Process for Ethanol Production	\$ 250,000	\$ 250,000	\$ 159,202	\$ 1,672,000	1	1	0	0	2	\$ 39,636
04/21/10	INORGANIC SPECIALISTS INC	Manufacturing of Next Generation Lithium Ion Anode	\$ 250,000	\$ 250,000	\$ 128,949	\$ 2,717,000	1	0	1	1	3	\$ 100,000
08/31/11	The University of Akron Research Foundation	Novel Polymeric Membranes for Advanced Energy Storage Devices, Batteries, and Fuel Cells	\$ 250,000	\$ 250,000	\$ 470,758	\$ -	0	4	4	0	8	\$ 20,000
01/31/11	EBO Group, Inc.	Innovative Oil-Cooled Elec. Motor Drive Sys. to Enable Adv. Hybrid Elec. Drives for Commercial Veh	\$ 1,000,000	\$ 1,000,000	\$ 571,029	\$ 109,560	1	0	1	0	2	\$ 88,000
04/21/12	Garland Company, Inc.	Garland Building Integrated Photovoltaic (BIPV) Systems	\$ 1,000,000	\$ 1,000,000	\$ 445,617	\$ 807,561	1	0	0	0	1	\$ 25,000
04/21/12	Parker Hannifin Corporation	Sub-Megawatt Class Hydrostatic Wind Turbine Drive Train Commercialization	\$ 1,000,000	\$ 1,000,000	\$ 346,817	\$ -	0	0	0	0	0	\$ -
04/21/11	Ohio State University Research Foundation	Carbon Negative Chemical Looping Process for Hydrogen or Liquid Fuel Synthesis	\$ 408,801	\$ 408,801	\$ 210,854	\$ 8,800,792	0	0	4	0	4	\$ 25,488
06/02/12	Veeco, Inc.	Microchannel Enabled Process for Synthetic Blueets and Chemicals	\$ 1,000,000	\$ 1,000,000	\$ 2,826,932	\$ 45,777,573	0	0	1	0	1	\$ 97,000
07/31/10	NexTech Materials Ltd	Market Readiness of Hydrogen Sensor for Advanced Energy Applications	\$ 549,088	\$ 549,088	\$ 273,031	\$ 113,057	3	0	3	0	6	\$ 61,000
01/12/12	EMTEC	Cooling of High Power Electronic Devices	\$ 1,000,000	\$ 1,000,000	\$ 500,000	\$ -	12	1	3	0	16	\$ 90,000
07/12/12	Global Cooling, Inc.	Advanced Commercial Stirling Cooler Development for Integration into Diverse Market Applications	\$ 1,000,000	\$ 900,000	\$ 2,924,377	\$ 4,447,521	17	0	12	2	31	\$ 35,069
01/12/12	Hyper Tech Research, Inc.	Wires and Coils for Superconducting Fault Current Limiters	\$ 1,000,000	\$ 1,000,000	\$ 987,653	\$ 188,300	0	0	7	0	7	\$ 55,365
01/26/11	Industrial Railway Switching & Services	Lean & Green Locomotive	\$ 450,000	\$ 450,000	\$ 362,546	\$ 2,473,295	4	0	8	0	12	\$ 35,984
01/12/12	Parker Hannifin Corporation	Ohio Wind Turbine Brake Commercialization	\$ 1,000,000	\$ 1,000,000	\$ 159,950	\$ 9,882	0	0	3	0	3	\$ 77,976
01/12/11	SCI Engineered Materials, Inc.	Rotatable Ceramic Targets for Photovoltaic Solar Cell	\$ 708,715	\$ 708,715	\$ 622,309	\$ 2,004,513	2	0	0	0	2	\$ 31,680
12/31/11	Sugant Systems, Inc.	Scale Up Of Cellulosic Ethanol	\$ 999,900	\$ 999,900	\$ 719,427	\$ 550,127	3	0	3	0	0	\$ 49,500
08/12/10	Tremco, Inc.	Building Integrated Photovoltaic (BIPV) Commercialization	\$ 1,000,000	\$ 1,000,000	\$ 75,425	\$ -	0	0	1	0	1	\$ 70,000
01/12/11	Webcor Technologies, Inc.	TYCOR Composite Material for Wind Turbine Blades	\$ 1,000,000	\$ 1,000,000	\$ 1,114,709	\$ 4,024,792	11	0	3	0	14	\$ 58,941
01/31/12	Xunlight Corporation	Roll to Roll Thin Film PV Manufacturing	\$ 995,577	\$ 995,577	\$ 516,453	\$ 2	9	0	0	0	9	\$ 37,200
02/08/12	Esthigs, Inc.	Development and Commercialization of Composite Tower for Wind Turbines	\$ 1,000,000	\$ 81,285	\$ 242,293	\$ -	0	0	0	0	0	\$ -
04/30/12	RW Beckett Corporation	Develop/Commercialize Residential Energy Storage Technology to Store Power	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 60,000	2	0	7	0	9	\$ 85,087
01/25/13	Aatron Industrial Automation, Inc.	Absolute Magnetic Encoder	\$ 1,000,000	\$ 380,488	\$ 237,866	\$ -	1	0	0	0	1	\$ 65,000
01/25/13	Novolyte Technologies, Inc.	Dev and Commercialization of Advanced Electrolyte Materials for Next Generation Lithium-Ion Batterie	\$ 1,123,544	\$ 624,177	\$ 866,081	\$ 5,000	6	3	1	1	11	\$ 44,000
07/25/12	Garrett International Holdings, Inc.	Development of Thermal Management Solutions for Lithium Ion Batteries	\$ 965,000	\$ 791,747	\$ 782,481	\$ 104,278	6	0	0	0	6	\$ 80,000
07/25/13	Quasar Energy Group, LLC	Accelerating Commercialization of Anaerobic Digestion for Bioenergy Production	\$ 2,000,000	\$ 1,885,675	\$ 2,117,296	\$ 2,295,592	36	0	20	0	56	\$ 50,000
02/08/12	University of Dayton	Development and Commercialization of Composite Towers for Wind Turbines	\$ 120,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
03/14/13	Delphi Automotive Systems, LLC	Aluminum Shielded Large Size Battery Cable Development for Electric/Hybrid Vehicles	\$ 1,000,000	\$ 843,430	\$ 1,733,333	\$ -	3	1	2	0	6	\$ 68,000
03/14/13	MesaCoat, Inc.	High Power Density Powder Coating System for Infrastructure	\$ 2,000,000	\$ 1,322,732	\$ 1,502,371	\$ -	0	0	0	0	0	\$ -
03/14/13	Aspiration Research, Inc.	Upgrading Cadill Gas to Natural Gas via PSA	\$ 1,000,000	\$ 792,941	\$ 415,994	\$ 6,762,001	3	0	2	2	7	\$ 78,990
03/14/13	Advanced Battery Concepts, LLC	Rapid Commercialization of GreenSeal Advanced High Energy Batteries	\$ 1,000,000	\$ 607,238	\$ 743,313	\$ 767,975	3	0	2	0	5	\$ 28,550
03/14/14	SuGain Systems, Inc.	Pilot Scale Demonstration of Ligno-Cellulosic Ethanol	\$ 2,000,000	\$ 619,350	\$ 1,533,837	\$ 440,000	0	2	2	0	4	\$ 45,000
09/14/13	Inorganic Specialists, Inc.	Lithium Ion Material Commercial Demonstration Project	\$ 1,000,000	\$ 728,093	\$ 974,368	\$ 9,000	1	0	2	1	4	\$ 100,000

ADVANCED ENERGY CLUSTER PROGRAM
 Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of advanced energy components
 March 2008 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
05/09/13	Nanolek Instruments, Inc.	Nano Graphene-Enabled Supercapacitors for Electric Vehicle, Renewable Energy Modern Grid Test Apps	\$ 999,996	\$ 673,662	\$ 618,926	\$ 4,048,238	14	0	3	0	17	\$ 55,270
05/09/13	RES Polyflow, LLC	Semi-Works Demonstration of Polyflow's Waste to Fuels Processor	\$ 1,600,000	\$ 601,790	\$ 1,040,453	\$ 207,000	5	0	0	0	5	\$ 65,000
05/09/13	AFS Technology	Tire Fuel Delivery System for Cement Kilns with Calciners	\$ 150,000	\$ 128,110	\$ 134,778	\$ 4,151,300	6	0	4	1	11	\$ 52,600
06/30/13	Gen Energy Management, LLC	LOAN-Modular Integrated Energy Systems for Critical Operations	\$ 1,000,000	\$ 1,000,000	\$ 1,008,631	\$ 1,025,561	2	0	0	0	2	\$ 73,292
05/09/13	Calgon Carbon Corporation	Development and Commercialization of Advanced Activated Carbons for Energy Storage Application	\$ 1,390,000	\$ 815,393	\$ 605,751	\$ 21,204	0	1	5	0	6	\$ 76,673

ADVANCED IMAGING CLUSTER PROGRAM
 Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of medical imaging components and systems
 August 1 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
08/09/13	The Ohio State University	Multi-Transmit Technology for High and Ultra-High Field MR Imaging	\$ 1,739,862	\$ 117,673	\$ 324,677	\$ 871,800	0	0	8	0	8	\$ 100,000
08/09/13	Neoprobe Corporation	IMaG-clinical Study for Lymphoseek a Medical Imaging Agent for Sentinel Lymph Node Mapping	\$ 1,000,000	\$ 949,843	\$ 1,154,600	\$ 14,582,375	18	0	4	4	26	\$ 87,222
08/09/13	Philips Medical Systems Cleveland Inc.	Absolute Myocardial Blood Flow	\$ 999,175	\$ 244,435	\$ 270,649	\$ 454,151	0	1	1	0	2	\$ 90,000
08/09/12	Infrared Imaging Systems, Inc.	Completion of Comm and Relocation of Mfg to Ohio of the INRIS Vascular/Viewer Product Portfolio	\$ 812,000	\$ 812,000	\$ 1,121,138	\$ 401,878	5	0	0	0	6	\$ 103,675
08/09/13	Quality Electrodynamics, LLC	7 Tesla High-Density MRI RF Coil Development & Commercialization	\$ 1,000,000	\$ 867,426	\$ 991,709	\$ -	3	0	13	0	21	\$ 53,571
08/09/13	USA Instruments, Inc.	MR Imaging and Devices for Pediatric Populations	\$ 1,000,000	\$ 424,717	\$ 973,392	\$ 1,237,194	6	1	8	0	15	\$ 80,000
08/09/13	EXCMR, Inc.	An In-State Multi-Center Evaluation of Treadmill Exercise Stress Cardiac Magnetic Resonance	\$ 999,694	\$ 663,700	\$ 2,284,623	\$ 1,365,475	7	0	16	0	23	\$ 110,000
08/09/12	Cardionight Technologies, Inc.	The Atlas Electrocardiographic Mapping System	\$ 1,000,000	\$ 1,000,000	\$ -	\$ 1,051,025	0	0	0	0	0	\$ -
11/22/12	The Ohio State University	In-State Multi-Center Evaluation of Treadmill Exercise Stress Cardiac Magnetic Resonance	\$ 425,000	\$ 425,000	\$ -	\$ 981,657	1	0	8	0	11	\$ 78,500
08/22/13	Malix Corporation	Position Magnetic Imaging	\$ 987,000	\$ 718,121	\$ -	\$ 352,000	1	1	0	2	4	\$ 84,600
08/26/13	Case Western Reserve University	Radial Contrast-Enhanced Tomography	\$ 1,890,049	\$ 34,431	\$ -	\$ -	1	3	0	0	4	\$ 54,600
08/26/13	Case Western Reserve University	Development and Commercialization of a Novel Imaging System to Determine Organ Viability	\$ 1,000,000	\$ 319,737	\$ 253,608	\$ -	2	0	3	0	5	\$ 54,800

ADVANCED MATERIALS CLUSTER PROGRAM
Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of polymer and carbon nanomaterials, liquid crystals and bio-based materials
March 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
05/10/12	Maverick Corporation	Low-Cost Fabrication of High-Temperature Composites	\$ 1,000,000	\$ 1,000,000	\$ 1,153,712	\$ 5,559,403	8	0	2	0	10	\$ 64,699
05/10/13	Lockheed Martin Corporation	Reduced-Permeability, High-Modulus Film Project for Military Lighter-Than-Air	\$ 1,000,000	\$ 773,999	\$ 1,187,488	\$ 693,000	0	0	2	0	2	\$ 80,000
10/31/12	Kent Displays, Inc.	Advanced Liquid Crystalline, Chiral and Dye Materials for Flexible Liquid Crystal Films	\$ 1,000,000	\$ 1,000,000	\$ 1,334,395	\$ 164,000	2	2	2	0	6	\$ 65,988
11/30/12	Alphamir, Inc.	Manufacturing of Plastic Liquid Crystal Auto Dimming Mirror	\$ 1,000,000	\$ 1,000,000	\$ 1,063,637	\$ 990,000	1	0	2	0	3	\$ 59,202
11/30/12	Materials Research Institute, LLC	Metallized Nanomaterials	\$ 791,000	\$ 460,943	\$ 479,360	\$ 6,560	0	0	3	0	3	\$ 73,332
10/31/12	Momentive Performance Materials Quartz, Inc.	Optimized Boron Nitride and Production Efficiency for Lower Cost Polymer Composites in LED Luminaire	\$ 918,000	\$ 918,000	\$ 1,056,005	\$ 9,469,433	2	0	4	0	6	\$ 69,350
07/19/13	General Nano, LLC	Conductive, Strong, Lightweight Yarn from Long Carbon Nanotubes for Aerospace and Defense	\$ 1,946,843	\$ 1,605,302	\$ 1,891,432	\$ 2,920,000	4	0	0	0	4	\$ 74,000
09/26/13	Chemimage Imaging Technology	Application of Liquid Crystal Cells to Produce Multi-Configurable Filters for Hyperspectral Imaging Sensors	\$ 989,877	\$ 328,602	\$ 349,080	\$ 401,706	0	0	6	1	7	\$ 53,527
09/26/13	Tru Thermal Materials, LLC	Planar Photonic Materials of Optical Coatings	\$ 1,020,000	\$ 562,402	\$ 1,009,326	\$ 805,000	5	0	0	0	5	\$ 54,800
09/26/13	Metallaria Technologies, LLC	Water Formulation Using Nano-Enabled Solutions	\$ 999,998	\$ 421,760	\$ 451,122	\$ 707,000	2	0	1	4	7	\$ 48,000
12/31/12	Isoli Energy Corporation	New Milling Process for the Production of Low-Cost, High-Purity Polysilicon for Solar Cells	\$ 925,500	\$ 925,500	\$ 1,184,613	\$ 3,550,000	0	0	13	2	15	\$ 92,893
09/26/13	NuVention Solutions, Inc.	Accelerating the Comm of a Novel Bio Resource Resin (BR2) for Agricultural, Construction & Ind. Apps	\$ 998,354	\$ 261,097	\$ 247,645	\$ 314,432	1	0	2	2	5	\$ 78,000
09/26/13	Renegade Materials Corporation	Hybrid Composite Materials for Commercial Aerospace Structures	\$ 1,000,000	\$ 491,346	\$ 448,758	\$ 1,807,127	5	0	0	2	7	\$ 52,000
11/14/13	Momentive Performance Materials Quartz, Inc.	Advanced TPG Thermal Management Composite	\$ 1,000,000	\$ 307,340	\$ 326,918	\$ 2,165,000	2	1	0	0	3	\$ 70,346

ADVANCED SENSORS CLUSTER PROGRAM
Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of sensor components and systems
March 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
06/30/13	NexTech Materials, Ltd.	Hydrogen Sensor Manufacturing Technology	\$ 1,000,000	\$ 900,000	\$ 995,661	\$ 2,373,518	6	0	0	0	6	\$ 73,000
05/10/12	Inova, Inc.	Scalable, Miniaturized, Low Cost Solid State Laser Systems for Sensor Applications	\$ 848,000	\$ 848,000	\$ 912,895	\$ 70,445	1	0	16	0	17	\$ 44,900
05/10/12	YSI, Inc.	Advanced Modified Carbon Nanotube Based Nutrient Sensor	\$ 1,127,673	\$ 1,111,244	\$ 1,238,632	\$ 600,000	0	0	0	0	1	\$ 85,593
05/10/13	Persistent Surveillance Systems, LLC	Colonization & Resolution Enhancement of Airborne Wide-Area Persistent Surveillance Sensors for Law	\$ 906,315	\$ 906,315	\$ 989,458	\$ 2,869,075	9	0	6	5	20	\$ 65,000
05/10/13	Pressco Technology, Inc.	High Performance Spectroscopy Sensor Applications in High Speed Product Testing	\$ 406,000	\$ 406,000	\$ 179,488	\$ 460,000	0	0	0	0	0	\$ 140,000
05/10/12	L-3 Communications Nova Engineering, Inc.	Sensors and Fusion Enhancement (SAFE) Program	\$ 689,550	\$ 689,550	\$ 1,197,305	\$ 0	0	0	7	0	10	\$ 62,000
05/10/12	StarEdge, Inc.	Dev. of a Solid Sensor to Control Engine Systems of Adv. Combustion Engines	\$ 1,000,000	\$ 718,684	\$ 422,051	\$ 2,850,000	3	0	0	1	9	\$ 62,000
08/22/13	Sierra Corporation	Development of a Commercial Transmitter (CRICKET) for Silicon Carbide & Piezo-Resistive Pressure Sensors for Commercial Aerospace and Industrial App	\$ 1,000,000	\$ 592,282	\$ 1,048,984	\$ 0	4	0	5	1	15	\$ 49,236
08/22/14	Lake Shore Cryotronics, Inc.	Cost Effective Terahertz-Based Characterization System for Semiconductor Materials Research	\$ 1,000,000	\$ 562,922	\$ 672,334	\$ 93,140	2	0	2	0	4	\$ 87,969

BIOMEDICAL CLUSTER PROGRAM
 Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of biomedical products, particular cardiovascular, regenerative medicine and orthopedics
 August 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
08/09/13	Orthoheix Surgical Designs, Inc.	MiniMega MaxLock Extreme Orthopedic Implants	\$ 1,000,000	\$ 906,324	\$ 1,027,324	\$ 10,051,842	15	0	14	0	29	\$ 71,139
08/09/12	Cardiox Corporation	Validation and Commercialization for Non-Invasive Detection of Cardiox Shunts	\$ 986,373	\$ 986,373	\$ 5,771,146	\$ 13,964,479	8	0	3	0	11	\$ 126,500
08/09/13	Case Western Reserve University	Clinical Development and Commercialization for Treatment of Spinal Cord Injury	\$ 1,000,000	\$ 330,212	\$ 971,629	\$ 2,740,263	3	0	0	0	3	\$ 38,533
08/09/13	SpineForm, LLC	Clinical Study and Commercialization of an Idiopathic Scoliosis Growth Modulation System	\$ 999,250	\$ 999,250	\$ 1,037,766	\$ 1,139,156	0	0	4	0	4	\$ 100,000
08/22/13	Alicare, Inc.	Advanced Urological Diagnostic & Therapeutic Accessories Project	\$ 1,000,000	\$ 104,068	\$ 231,936	\$ 560,676	0	0	1	0	1	\$ 70,000
08/22/13	United States Endoscopy Group, Inc.	Advanced Urological Diagnostic & Therapeutic Accessories Project	\$ 1,000,000	\$ 612,229	\$ 521,673	\$ 820,497	5	0	0	3	8	\$ 70,000
08/22/13	Beckler Medical Systems, Inc.	Medical Endoscopy Technologies	\$ 1,000,000	\$ 371,663	\$ 391,224	\$ 766,457	16	0	3	0	19	\$ 76,066
08/22/13	VasoSper, Inc.	Medical Endoscopy Technologies	\$ 1,000,000	\$ 456,988	\$ 468,453	\$ 76,703	0	0	6	0	6	\$ 85,000
08/22/13	Aerionics, Inc.	Vibrating Tip Ultrasonic System for Penetrating Chronic Occlusions	\$ 999,999	\$ 629,207	\$ 147,679	\$ 13,589	2	0	17	0	19	\$ 74,713
08/22/13	Pericor, Inc.	Development and Commercialization of Hematopoietic Stem Cell Expansion System for Clinical Apps	\$ 1,000,000	\$ 229,777	\$ -	\$ -	0	0	0	0	0	\$ -
08/22/13	Case Western Reserve University	Development and Commercialization of a Novel Biodegradable Therapy for Stress Urinary Incontinence	\$ 982,768	\$ 50,740	\$ -	\$ -	0	0	0	0	0	\$ -
09/26/13	Sironix Therapeutics, Inc.	SDF-1 Treatment to Induce Vascular and Epithelial Regeneration After Cardiovascular Surgery	\$ 991,788	\$ 547,286	\$ 678,638	\$ 2,883,750	2	0	0	1	3	\$ 101,849

BIOMEDICAL RESEARCH COMMERCIALIZATION PROGRAM
 Advances scientifically unique applied research projects that can sustain new, innovative products within three years
 January 2003 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/07	Ohio State University Research Foundation	Cardiovascular Bioengineering Enterprise	\$ 6,500,000	\$ 6,500,000	\$ 10,278,723	\$ 50,413,232	0	92	145	0	237	\$ 50,000
06/30/08	University of Cincinnati	Genome Research Infrastructure Partnership	\$ 9,000,000	\$ 9,000,000	\$ 23,271,125	\$ 120,746,424	10	252	238	8	508	\$ 50,000
07/31/07	Ohio State University Research Foundation	Biomedical Informatics Synthesis Platform	\$ 6,000,000	\$ 6,000,000	\$ 6,571,043	\$ 28,244,311	21	2	16	0	39	\$ 50,000
06/30/07	Case Western Reserve University	Genetics of Gastrointestinal Cancers	\$ 10,200,000	\$ 10,200,000	\$ 21,230,017	\$ 44,120,906	5	38	0	0	43	\$ 57,363
06/30/07	Case Western Reserve University	Ohio Neurostimulation and Neuromodulation Partnership	\$ 7,868,103	\$ 7,868,103	\$ 13,587,857	\$ 66,765,628	13	22	1	0	36	\$ 81,068
04/30/08	Cleveland Clinic Foundation	Brain Neuromodulation Center	\$ 7,652,496	\$ 7,652,496	\$ 8,195,898	\$ 36,188,822	12	20	1	2	35	\$ 130,000
12/31/08	Ohio State University Research Foundation	A Comprehensive Program for the Prevention, Detection, and Treatment of Lung Cancer	\$ 8,000,042	\$ 8,000,042	\$ 15,226,121	\$ 94,657,373	18	66	71	2	157	\$ 67,700
06/06/09	Ohio State University Research Foundation	A Commercialization Platform of Immunotherapeutics for Multiple Sclerosis	\$ 4,250,000	\$ 4,250,000	\$ 6,731,181	\$ 20,967,765	2	6	0	0	8	\$ 62,756
06/30/09	Case Western Reserve University	Targeted Nanoparticles for Imaging and Therapeutics	\$ 4,000,000	\$ 4,000,000	\$ 3,999,971	\$ 28,746,372	27	15	0	0	42	\$ 110,162
06/06/09	Cleveland Clinic Foundation	AMD Initiative for Prevention and Cure	\$ 6,000,000	\$ 6,000,000	\$ 7,228,029	\$ 32,663,813	8	17	78	0	103	\$ 75,000
03/31/09	Cleveland Clinic Foundation	Clinical Tissue Engineering Center	\$ 4,000,000	\$ 4,000,000	\$ 4,142,740	\$ 34,415,900	7	21	28	0	56	\$ 56,986
02/29/12	Ohio State University Research Foundation	Biostructural, Functional and Molecular Imaging	\$ 7,678,957	\$ 7,671,734	\$ 10,427,913	\$ 31,159,571	14	8	16	0	38	\$ 105,250
08/31/09	Case Western Reserve University	Center for Stem Cell and Regenerative Medicine 2	\$ 8,000,000	\$ 8,000,000	\$ 9,069,798	\$ 193,952,399	43	14	0	0	57	\$ 62,900
06/30/10	Case Western Reserve University	Ohio Neurostimulation and Neuromodulation Partnership Continuation	\$ 7,999,998	\$ 7,999,998	\$ 9,274,904	\$ 49,435,403	8	3	25	0	36	\$ 96,685
06/12/09	Charltest, Inc.	Ion Channel Panel Screening for Drug Safety and Discovery	\$ 4,728,969	\$ 4,728,969	\$ 4,751,210	\$ 15,356,082	12	0	5	0	17	\$ 60,772
12/31/10	Ohio State University Research Foundation	Advanced Biomedical Devices for Disease Diagnosis and Therapy	\$ 3,500,000	\$ 3,500,000	\$ 3,500,000	\$ 1,300,000	6	3	0	0	9	\$ 92,400
12/31/12	Cleveland Clinic Foundation	Rapid Rehabilitation and Return to Function for Amputee Soldiers	\$ 2,104,503	\$ 1,727,279	\$ 1,926,164	\$ 459,614	0	6	0	0	6	\$ 34,472
12/31/11	Diagnostic Hybrids, Inc.	Antiviral Resistance Testing and Vaccine Development	\$ 5,000,000	\$ 5,000,000	\$ 7,185,431	\$ 6,177,799	0	4	4	0	8	\$ 72,575
06/26/13	Cleveland Clinic Foundation	Breath Analysis- Targeted Sensor Development and Commercialization for Health Care Diagnostics	\$ 3,783,138	\$ 3,445,866	\$ 4,285,244	\$ 2,754,151	2	2	1	0	5	\$ 56,155
06/30/12	Case Western Reserve University	Therapeutic DNA Nanoparticles and Molecular Imaging "TDNMIM"	\$ 3,976,689	\$ 3,972,836	\$ 4,203,120	\$ 9,148,738	2	3	0	0	5	\$ 65,978
12/31/12	Cleveland Clinic Foundation	Neuroregenerative Therapies	\$ 3,000,000	\$ 2,627,040	\$ 3,076,886	\$ 715,000	2	0	11	0	13	\$ 57,653
06/30/12	Cleveland Clinic Foundation	Treatment of Acute and Chronic Wounds with Tissue Engineering Strategies	\$ 4,977,748	\$ 3,922,051	\$ 4,703,219	\$ 15,735,817	6	23	14	0	43	\$ 55,950
10/28/12	Case Western Reserve University	Center for Stem Cell & Regenerative Medicine- Commercial and Clinical Application 3	\$ 5,000,000	\$ 4,678,992	\$ 5,114,661	\$ 110,162,736	12	53	0	0	65	\$ 58,077
04/28/12	Charltest Corporation	Establishing Dominant CHO for Membrane Transport Services & Reagents	\$ 4,831,110	\$ 4,831,110	\$ 4,939,138	\$ 1,214,022	3	0	9	0	12	\$ 69,217
04/30/13	Cleveland Clinic Foundation	Tools to Improve Orthopedic Surgical Outcomes (TIOSO)	\$ 3,502,998	\$ 3,045,556	\$ 3,152,364	\$ 5,062,150	4	3	0	1	8	\$ 64,605
04/28/13	Arterioocyte, Inc.	Commercialization of Rapid Bedside Stem Cell Therapeutics	\$ 4,995,670	\$ 4,061,217	\$ 4,997,260	\$ 3,777,159	2	0	17	0	19	\$ 74,713
04/28/13	ViewRay, Inc.	Expansion of MRI into Radiotherapy Guidance	\$ 5,000,000	\$ 4,106,182	\$ 13,770,965	\$ 22,500	7	5	37	2	51	\$ 142,948

ENGINEERING RESEARCH COMMERCIALIZATION PROGRAM
 Advances scientifically unique applied research projects that can sustain new, innovative products within three years
 May 2007 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
02/26/11	Ohio State University Research Foundation	High-Performance Nano-Tailored Composites	\$ 8,000,000	\$ 8,000,000	\$ 8,073,705	\$ 136,761,639	49	8	57	4	118	\$ 61,810
02/26/11	University of Akron Research Foundation	Functional Polyimide Films and Nanocomposites	\$ 8,000,000	\$ 8,000,000	\$ 8,606,328	\$ 47,278,339	35	6	6	0	47	\$ 71,625
02/26/10	Graphix International, Ltd.	Graphitic Nanocomposites for Electronic Thermal Management	\$ 7,945,465	\$ 7,945,465	\$ 8,171,885	\$ 28,521,586	92	6	8	0	106	\$ 66,921
02/26/10	Kent Displays, Inc.	Flexible Liquid Crystal Film Manufacturing	\$ 7,992,375	\$ 7,992,375	\$ 9,726,106	\$ 22,319,580	25	4	19	5	53	\$ 49,911
12/31/10	Swagelok Company	Commercialization of Low-Temperature Carburation	\$ 5,500,611	\$ 5,500,611	\$ 6,836,684	\$ 5,200,473	4	7	9	0	20	\$ 90,386
11/04/11	University of Dayton	Protective Integrated Coatings for Extreme Environments	\$ 5,000,000	\$ 5,000,000	\$ 7,046,259	\$ 13,007,427	24	1	14	1	40	\$ 60,000
08/04/12	AlphaInCo, Inc.	Adaptive Windows: Path to Zero-Energy Buildings	\$ 5,000,000	\$ 5,000,000	\$ 7,000,958	\$ 5,162,157	2	2	4	5	13	\$ 54,126
02/04/12	Xunlight Corporation	Ohio Based Manufacturing of Thin-Film Photovoltaics	\$ 4,975,000	\$ 4,975,000	\$ 5,515,205	\$ 1,100,000	20	0	20	0	40	\$ 50,000
08/04/11	Echogen Power Systems, Inc.	Center for Thermally Efficient Technology/ Commercialization: Clean Industrial Waste Heat Power	\$ 4,300,000	\$ 4,300,000	\$ 5,073,063	\$ 28,910,924	50	0	44	6	100	\$ 106,500
01/31/13	The Andersons, Inc.	Advanced Materials: Granule-based Delivery Systems	\$ 5,000,000	\$ 4,735,630	\$ 8,607,303	\$ 57,987,021	29	4	0	1	34	\$ 36,500
10/18/12	Zyex Performance Materials, Inc.	Advanced Composites: The New Generation of Materials Powered by Nanotechnology	\$ 4,996,609	\$ 4,733,427	\$ 6,083,494	\$ 9,194,102	5	0	11	3	19	\$ 85,362
08/31/12	Kent Displays, Inc.	Electronically Changeable Color Skins for Consumer Electronics	\$ 4,967,310	\$ 4,967,310	\$ 6,550,303	\$ 11,152,106	12	3	9	0	24	\$ 49,916
08/18/13	Hyper-Tech Research, Inc.	Magnesium Diboride for Next Generation MRI	\$ 5,000,000	\$ 4,292,881	\$ 5,527,751	\$ 5,589,312	11	0	10	0	21	\$ 54,558
04/27/13	Vetcoys, Inc.	Microchannel Hydroprocessing for Upgrading Biofuels, Petroleum Feedstock & Chemical Intermediates	\$ 4,000,000	\$ 3,566,382	\$ 5,142,207	\$ 3,232,100	0	0	4	7	11	\$ 97,000

ENTREPRENEURIAL SIGNATURE PROGRAM
Establishes networks of entrepreneurial assistance services and investment capital within six Ohio geographies to accelerate the growth of early-stage Ohio technology companies
February 2007 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/12	Development Projects Inc.	Entrepreneurial Signature Program	\$ 15,616,770	\$ 15,359,468	\$ 7,500,000	\$ 126,717,866	180	4	174	45	403	\$ 54,359
6/30/12	Northeast Ohio Technology Coalition	Building Business & Industry From Disruptive Technology	\$ 15,000,000	\$ 15,000,000	\$ 9,033,775	\$ 571,044,947	337	0	633	30	1060	\$ 60,978
6/30/12	TechColumbus, Inc.	Central Ohio Entrepreneurial Signature Program	\$ 15,000,000	\$ 14,943,444	\$ 7,500,000	\$ 205,607,692	283	12	90	21	386	\$ 62,565
12/31/12	Central Ohio Regional Chamber	Southwest Ohio Entrepreneurial Signature Program	\$ 14,800,000	\$ 14,800,000	\$ 7,421,882	\$ 254,927,490	11	0	247	48	306	\$ 78,145
9/6/13	JumpStart, Inc.	EAO Funding	\$ 1,000,000	\$ 1,000,000	\$ 1,132,145	\$ 3,684,488	15	0	40	6	61	\$ 61,210
7/27/11	Biocentrique Corporation	Biological Start-Ups in Northeast Ohio	\$ 600,000	\$ 600,000	\$ 900,000	\$ -	0	0	0	0	0	\$ -
7/27/11	JumpStart, Inc.	JumpStart EAO Success Fund	\$ 1,900,000	\$ 1,900,000	\$ 1,935,000	\$ 28,356,615	47	0	204	8	259	\$ 53,746
7/19/12	JumpStart, Inc.	Bioscience and the JumpStart Entrepreneurial Network	\$ 4,000,000	\$ 4,000,000	\$ 4,000,000	\$ 27,545,099	70	0	78	16	120	\$ 60,075
7/19/12	JumpStart, Inc.	Southwest Ohio Signature Program - The Next Generation	\$ 1,762,050	\$ 1,762,050	\$ 2,000,000	\$ 85,109,086	2	0	34	2	82	\$ 50,000
7/19/12	Central Ohio Regional Chamber	Energy and the JumpStart Entrepreneurial Network	\$ 2,000,000	\$ 2,000,000	\$ 300,000	\$ 9,740,000	0	0	0	0	0	\$ -
7/19/12	JumpStart, Inc.	The JumpStart and Third Frontier Entrepreneurial Network	\$ 300,000	\$ 300,000	\$ 865,000	\$ 22,454,857	17	0	48	4	69	\$ 53,547
12/31/12	JumpStart, Inc.	TechColumbus Continuity Initiative	\$ 865,000	\$ 865,000	\$ 1,613,845	\$ 10,432,631	115	0	62	36	213	\$ 44,934
12/31/12	TechColumbus, Inc.	TechColumbus Continuity Program	\$ 2,935,869	\$ 2,701,036	\$ 6,645,836	\$ 153,447,518	45	0	0	4	49	\$ 22,986
12/31/12	Ohio University	JumpStart Entrepreneurial Network, the Northeast Ohio Entrepreneurial Signature Program	\$ 12,195,500	\$ 11,903,771	\$ -	\$ -	202	0	0	12	214	\$ 35,978
12/31/12	JumpStart, Inc.	Signature Program	\$ 10,207,394	\$ 7,884,321	\$ 5,980,516	\$ 8,643,426	45	0	202	53	300	\$ 23,682
12/31/12	Rocket Ventures, LLC	Rocket Ventures ESP Continuity	\$ 150,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/14	TechColumbus	Central Ohio Entrepreneurial Signature Program 2.0	\$ 7,700,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/14	Development Projects, Inc.	Central Region Technology Entrepreneurial Ecosystem	\$ 7,000,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/14	JumpStart, Inc.	Northeast Ohio ESP New Continuation and Statewide Efforts	\$ 5,500,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/13	JumpStart, Inc.	Northeast Ohio ESP New Continuation and Statewide Efforts	\$ 12,000,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/13	Rocket Ventures, LLC	Rocket Ventures Services Continuation	\$ 1,000,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/31/14	Ohio University	Tech Growth Ohio Services III	\$ 3,000,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -

FUEL CELLS CLUSTER ROGRAM
Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of fuel cell components and systems
5/1/2003 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/05	EMTEC	Building the Domestic Infrastructure for Solid Oxide Fuel Cell Materials	\$ 846,861	\$ 846,861	\$ 565,346	\$ 13,561,000	1	1	5	0	7	\$ 60,000
09/30/05	SOFCO-EFFS Holdings, LLC	Sulfur-Tolerant Solid Oxide Fuel Cell Power Systems Operating on Distillate Fuels	\$ 775,286	\$ 775,286	\$ 837,914	\$ 2,516,494	0	0	0	0	7	\$ 55,800
12/31/05	WANNER, INC.	TM1 Solid Oxide Fuel Cell Development and Commercialization Packaging a Current or Power Conversion & Distribution equipment receiver for Vehicle Electrification	\$ 979,000	\$ 979,000	\$ 531,698	\$ 3,725,081	0	0	5	1	11	\$ 66,875
12/31/06	ADVANCED ENERGY TECHNOLOGY INC	Volume Manufacturing for Commercialization of Flow Field Plates for PEM Fuel Cells	\$ 1,044,226	\$ 1,044,226	\$ 1,034,338	\$ 2,987,755	4	0	1	0	5	\$ 75,000
08/31/06	Metallena Partners, LLC	Cost-Effective Materials and Components for Solid Oxide Fuel Cells	\$ 988,426	\$ 988,426	\$ 491,907	\$ 6,941,882	33	2	2	0	35	\$ 60,000
12/31/06	ADVANCED ENERGY TECHNOLOGY INC	Commercializing PEM-LITE Systems, a Rapid, Cost-Effective Fuel Cell Tool	\$ 898,137	\$ 898,137	\$ 680,531	\$ 4,487,000	1	0	0	0	1	\$ 100,000
06/24/07	NexTech Materials, Ltd.	Auxiliary Power for Transportation: High Power Density SOFCs	\$ 602,044	\$ 602,044	\$ 357,296	\$ 1,552,869	2	1	1	0	3	\$ 75,000
12/31/08	Gratfield International, Ltd.	Development of a Unique Natural Graphite Gas Diffusion Layer for PEM Fuel Cells	\$ 719,200	\$ 719,200	\$ 664,267	\$ 3,484,361	5	2	1	0	7	\$ 55,000
01/24/08	EMTEC	Enabling Low Cost MEA Manufacturing for PEM Fuel Cells in Ohio	\$ 889,068	\$ 889,068	\$ 882,247	\$ 39,296,640	0	1	1	0	2	\$ 94,060
12/31/07	Metallena Partners, LLC	Nanostructural Cathode for High Performance Fuel Cell	\$ 346,913	\$ 346,913	\$ 345,253	\$ 938,170	3	0	0	0	3	\$ 54,000
11/30/07	Mound Technical Solutions, Inc.	DEV-Mig. & Comm. of World-Class Comprehensive Fuel Cell Test Systems in Ohio	\$ 600,000	\$ 600,000	\$ 387,454	\$ 47,577	3	0	2	0	5	\$ 40,560
10/31/08	Hydrogen Corporation	Manufacturing of Air-Cooled Phosphoric Acid Fuel Cells	\$ 1,000,000	\$ 1,000,000	\$ 522,715	\$ 230,000	15	0	0	0	15	\$ 60,000
08/30/08	SOFCO-EFFS Holdings, LLC	Advanced Components for Commercially Competitive Solid Oxide Fuel Cell Systems	\$ 999,841	\$ 999,841	\$ 499,617	\$ 7,847,977	3	0	14	3	20	\$ 88,000
10/1/08	EMTEC	Design for Manufacturability of TM1's SOFC System	\$ 1,000,000	\$ 1,000,000	\$ 1,003,645	\$ 3,405,388	1	0	7	0	8	\$ 68,000
04/1/08	OnPower, Inc.	TMW Solid Oxide Fuel Cell System Package Development, Integration, & Prototyping	\$ 919,892	\$ 919,892	\$ 918,982	\$ -	6	0	0	0	6	\$ 42,640
08/30/08	Penney Corporation	Polymer Electrolyte Membrane Fuel Cells for Maritime Low Cost, High Temperature Heat Exchanger and Reactor Platform for Fuel Cell Applications	\$ 775,300	\$ 775,300	\$ 566,280	\$ 50,000	1	0	0	0	1	\$ 108,000
12/31/08	NexTech Materials, Ltd.	High Efficiency Military Purpose Fuel Cells	\$ 751,719	\$ 751,719	\$ 376,561	\$ 115,177	0	0	2	0	2	\$ 70,000
05/31/11	University of Dayton	Accelerated Testing Demonstration for Market	\$ 999,927	\$ 999,927	\$ 512,686	\$ 5,348,000	2	0	1	0	3	\$ 85,000
09/30/09	Catecel Corporation	Heat Exchanger Demonstration on TM1 Fuel Cell	\$ 499,986	\$ 499,986	\$ 259,223	\$ 352,287	0	0	2	0	2	\$ 60,000
09/30/09	NexTech Materials, Ltd.	H2S Sensor for Solid Oxide Fuel Cell Systems	\$ 250,000	\$ 250,000	\$ 200,371	\$ 58,778	0	0	2	0	2	\$ 78,000
09/07/10	Plug Power, Inc.	Hydrogen Fuel Cells in Industrial Vehicles	\$ 500,000	\$ 500,000	\$ 389,324	\$ 724,226	3	0	1	0	3	\$ 100,000
08/31/09	American Trim, LLC	Fuel Cell Plates via Electrodeposited Forming	\$ 998,870	\$ 998,870	\$ 499,843	\$ 1,344,271	2	0	5	0	7	\$ 54,140
12/31/10	UlricaCell Corporation	Subsystem for a Lightweight Solid Oxide Fuel Cell System	\$ 999,125	\$ 999,125	\$ 464,052	\$ 1,421,680	0	0	4	0	4	\$ 28,735
09/30/09	Mound Technical Solutions, Inc.	Fuel Cell Systems for Extended Runtimes	\$ 494,040	\$ 494,040	\$ 286,571	\$ 934,000	1	0	0	0	2	\$ 46,800
12/07/09	Weinman Products Group, Inc.	Comprehensive Fuel Cell Test System Products	\$ 1,000,000	\$ 1,000,000	\$ 844,795	\$ 13,169,452	36	0	1	0	36	\$ 26,554
06/30/11	Catecel Corporation	Desulfurizer-Embedded Processor for Logistic Fuels	\$ 613,457	\$ 613,457	\$ 308,142	\$ 107,292	0	0	1	0	1	\$ 85,000
09/07/09	Edison Welding Institute, Inc.	Metal Interconnects for Fuel Cells	\$ 999,962	\$ 999,962	\$ 500,000	\$ 722,000	0	0	0	0	0	\$ -
05/18/12	Veloys, Inc.	Manufacturing optimization and upgrading solutions: retooling retoolstock and development of Direct Carbon Fuel Cell Systems	\$ 1,000,000	\$ 1,000,000	\$ 657,944	\$ 6,235,782	15	0	1	0	15	\$ 77,344
06/07/10	Alcon Polymer Systems, Inc.	Development of Direct Carbon Fuel Cell Systems	\$ 349,644	\$ 349,644	\$ 189,139	\$ 811,968	0	0	6	0	6	\$ 90,821
10/21/10	Refactory Specialists, Inc.	High Purity, Robust Kiln Furniture for Low Cost SOFC Manufacturing	\$ 400,000	\$ 400,000	\$ 200,421	\$ -	0	0	4	0	4	\$ 32,500
08/19/10	Kent State University	Third Generation of PEFC Catalytic Layers	\$ 299,548	\$ 291,685	\$ 163,730	\$ 235,891	0	0	4	0	4	\$ 22,888
04/30/11	Gratfield International, Ltd.	Commercialization of Solid Oxide Fuel Cell Plates for Transportation Fuel Cell Systems	\$ 973,154	\$ 973,154	\$ 541,130	\$ 2,659,447	5	0	0	0	5	\$ 52,500
04/21/10	Crown Equipment Corporation	Qualification of LH Trucks for Battery Replacement Fuel Cells	\$ 977,270	\$ 977,270	\$ 733,708	\$ 9,880,000	4	0	12	0	16	\$ 51,000
04/21/10	Rolls-Royce Fuel Cell Systems (US), Inc.	Development of a High Pressure Stack System for an Air-Centrifugal Increasing Productivity and Reliability of Reformed Methanol Micro Fuel Cells	\$ 1,000,000	\$ 1,000,000	\$ 1,632,589	\$ 11,394,856	1	0	5	1	7	\$ 87,500
08/30/10	Catecel Corporation	High Volume Coating Process for Fuel Cell Catalytic Inserts	\$ 445,614	\$ 445,614	\$ 223,786	\$ 1,545,511	7	0	6	0	13	\$ 52,800
10/21/10	NexTech Technologies, Inc.	Development of a Robust Fuel Cell Generator for Military Applications	\$ 1,000,000	\$ 1,000,000	\$ 499,998	\$ 410,037	2	0	0	0	2	\$ 26,250
07/31/10	NexTech Materials, Ltd.	Cell Manufacturing for 100+ kW SOFC Power Generation Systems	\$ 1,000,000	\$ 1,000,000	\$ 1,300,051	\$ 2,625,360	4	0	3	0	7	\$ 60,000
04/21/10	American Trim, LLC	Agile Hybrid Joining of Fuel Cell Bipolar Plates-American Trim	\$ 1,000,000	\$ 1,000,000	\$ 793,196	\$ 1,843,080	3	0	11	0	14	\$ 54,000
06/12/11	Lockheed Martin Corporation	Military SOFC Genset Project	\$ 998,393	\$ 998,393	\$ 512,032	\$ 2,449,265	1	0	7	2	10	\$ 78,500
06/30/11	Battelle Memorial Institute	Solid Oxide Fuel Cell Power Generator Prototype	\$ 1,000,000	\$ 1,000,000	\$ 516,347	\$ 3,062,160	0	1	1	0	2	\$ 120,000
01/12/11	Logos Energy, Inc.	Improved Direct Carbon Fuel Cell (DCFC) Stack Efficiency	\$ 350,000	\$ 350,000	\$ 175,227	\$ -	3	0	1	0	3	\$ -
08/30/12	Energy Technologies, Inc.	Metal Hydride Fuel Cell Stack & Systems	\$ 1,000,000	\$ 1,000,000	\$ 499,999	\$ 1,63,580	1	0	0	0	1	\$ 26,520
01/12/12	Ohio State University Research Foundation	Membrane Electrolyte Assembly and Direct Boronhydride Internal Steam Reforming for 1MW Solid Oxide Fuel Cell Electric Power System	\$ 350,000	\$ 350,000	\$ 183,424	\$ -	0	2	0	0	2	\$ 29,448
09/30/11	Rolls-Royce Fuel Cell Systems (US), Inc.	Development of an Integrated Fuel Cell/Forklift Truck	\$ 600,000	\$ 600,000	\$ 400,800	\$ 513,000	0	0	1	0	1	\$ 85,270
09/31/12	Crown Equipment Corporation	Testing Metal Hydride Fuel Cells	\$ 1,000,000	\$ 1,000,000	\$ 1,188,456	\$ -	1	0	0	0	1	\$ 26,520
06/30/12	Energy Technologies, Inc.	Reliability of Fuel Cells for Commercial Megawatt Scale SOFC Power Systems	\$ 1,000,000	\$ 1,000,000	\$ 743,317	\$ 12,268,620	0	0	0	0	0	\$ 85,270
12/28/12	NexTech Materials, Ltd.	Improving the Manufacturing Readiness of Next-Gen SOFC Stack Technology	\$ 1,490,000	\$ 1,271,066	\$ 1,437,438	\$ 4,437,942	7	0	0	0	7	\$ 48,000
01/25/12	Carlisle Brake & Friction Inc.	Phosphoric Fuel Cell Stack Material Cost Reduction	\$ 883,252	\$ 883,252	\$ 887,541	\$ 522,229	1	0	0	1	2	\$ 75,000
01/25/12	Lockheed Martin Corporation	Millipore SOFC Regeneration	\$ 1,000,000	\$ 1,000,000	\$ 99,332	\$ 1,302,980	0	0	6	3	9	\$ 78,800
03/14/13	LG Fuel Cell Systems, Inc.	Automated and Demonstrated Pilot-Scale Manufacturing of SOFCs	\$ 999,875	\$ 1,000,000	\$ 346,531	\$ 5,632,246	0	0	0	0	0	\$ 85,270
05/09/13	American Trim	Low Cost Manufacturing System for Fuel Cell Components	\$ 694,263	\$ 775,394	\$ 884,979	\$ 2,229,272	2	0	5	0	7	\$ 54,140
05/09/13	Battelle Memorial Institute	Improving the Manufacturing Readiness of a Solid Oxide Fuel Cell Primary Power	\$ 1,000,000	\$ 82,763	\$ 370,317	\$ 100,000	1	1	1	1	4	\$ 90,000
05/09/13	Lockheed Martin Corporation	Military SOFC Genset Commercialization	\$ 1,000,000	\$ 753,809	\$ 1,171,473	\$ 3,680,177	0	0	10	1	11	\$ 78,900

INDUSTRIAL RESEARCH AND DEVELOPMENT CENTER PROGRAM
Attraction and retention of major corporate, non-profit or federal research and development centers
June 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
06/14/15	University of Dayton	Electrical Power Integrated Systems Center (EPISCENTER)	\$ 7,612,500	\$ 396,796	\$ 2,140,000	\$ 1,632,331	3	1	0	5	9	\$ 75,000
10/29/15	Case Western Reserve University	Global Advanced Imaging Innovation Center	\$ 5,000,000	\$ 4,750,000	\$ 17,072,309	\$ -	0	7	10	0	17	\$ 80,000
11/22/15	Stark State College of Technology	Wind Energy Research and Development Center-RDCAP	\$ 1,228,417	\$ 450,155	\$ 2,026,821	\$ 3,288,115	0	0	239	0	239	\$ 33,000
06/30/16	Wright State University	Human Performance Consortium Research & Development Center	\$ 1,708,944	\$ 567,157	\$ 1,163,174	\$ 16,000,795	49	2	0	2	53	\$ -
06/13/16	The Ohio State University	Microwave Assisted Thermal Sterilization-The Worrick Company	\$ 1,717,612	\$ 480,000	\$ 578,432	\$ -	2	0	0	1	3	\$ 65,000
12/31/16	Philips Medical Systems Cleveland, Inc.	Philips Global SPECT R&D Hub	\$ 5,000,000	\$ 2,500,000	\$ 2,500,000	\$ -	71	0	0	0	71	\$ 87,742
05/07/15	University of Cincinnati	General Electric Aviation Research Center	\$ 5,000,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/29/17	Michemair, Inc.	Advanced Materials Collaboration Center	\$ 2,494,892	\$ -	\$ -	\$ -	0	0	0	8	0	\$ -
							125	10	249	8	392	

OPEN INNOVATION INCENTIVE
 Assists Ohio middle market companies with in-sourcing of innovations from other groups or companies to overcome technical obstacles
 August 2012 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
08/20/14	NineSigma, Inc. yeatz.com , Inc.	Intermediary Services to Ohio Middle Market Technology Companies	\$ 2,097,563	\$ 273,292	\$ -	\$ -	0	0	0	0	0	\$ -

OHIO'S NEW ENTREPRENEURS (ONE) FUND
 Recruitment of young entrepreneurs to work under the guidance of seasoned entrepreneurs, industry experts and investors
 March 2012 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/14/12	Goldstein Caldwell & Associates, LLC	LaunchHouse Institute Accelerator	\$ 200,000	\$ 200,000	\$ -	\$ 50,000	0	0	0	0	0	\$ -
09/28/12	The Ohio State University	The 10-xelerator (10x)	\$ 180,000	\$ 180,000	\$ -	\$ 4,805,000	14	0	0	0	14	\$ 35,000
10/31/12	Main Street Ventures	The Brandy	\$ 200,000	\$ 200,000	\$ -	-	0	0	0	0	0	\$ -
09/28/12	Innov8 For Health, Inc.	Innov8 For Health Accelerator	\$ 160,000	\$ 160,000	\$ -	-	2	0	0	0	2	\$ -

OHIO RESEARCH COMMERCIALIZATION GRANT PROGRAM
Improves the commercial viability of technologies developed through various federal small business research, technology transfer and advanced technology programs
May 2004 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
05/17/06	NextTech Materials, Ltd.	Commercialization of Planar Solid Oxide Fuel Cell Elements for Ohio's Future	\$ 175,000	\$ -	\$ -	\$ 4,909,933	0	0	1	0	1	\$ 55,000
12/31/08	Cleveland Medical Devices, Inc.	Emergency Medical Brain Monitor with Reentry	\$ 174,791	\$ 174,792	\$ 62,135	\$ 8,999,135	12	0	2	2	16	\$ 89,215
12/31/06	SIERRA LOBO INC	Commercialization of the CVO-Tracker Mass Gauging System	\$ 174,965	\$ 174,965	\$ 67,700	\$ 2,958,911	3	0	0	0	3	\$ 70,000
05/17/07	Biorac, Inc.	Commercialization of two Nanomagnetically Powdered for Non-Nuclear Markets	\$ 175,000	\$ 175,000	\$ 120,000	\$ 4,778,000	6	0	12	0	20	\$ 63,500
05/17/07	Orbital Research, Inc.	Novel Ed-Erison Detection Device	\$ 174,985	\$ 174,985	\$ -	\$ 2,250,000	3	0	0	0	3	\$ 190,000
05/17/06	Orbital Research, Inc.	Commercialization of In-Cylinder Pressure Sensor for Improved Fuel Economy and Reduced Emission	\$ 174,956	\$ 174,995	\$ -	\$ 3,959,793	2	0	6	1	9	\$ 85,000
05/17/06	Cifton, Labs, Inc.	Real-time Location Systems Using Light	\$ 174,705	\$ 174,705	\$ 17,484	\$ 1,820,280	1	0	0	0	1	\$ 45,000
12/31/06	Altitude, Inc.	A New Device for Neurological Disease	\$ 175,000	\$ 175,000	\$ 544,048	\$ 13,191,956	3	0	0	0	3	\$ 85,000
05/17/06	Cleveland Medical Devices, Inc.	Robot Bed for Neurological Studies	\$ 170,000	\$ 170,000	\$ 104,213	\$ 6,420,755	5	0	2	0	7	\$ 67,667
09/30/06	Exora Materials Group, Inc.	Creating an Effective Ohio-based Supply Chain for Ballistic Armor Manufacturing	\$ 172,000	\$ 164,791	\$ 96,377	\$ 5,849,494	0	0	0	0	0	\$ -
05/17/06	Exora Materials, Ltd.	Commercialization of Tubular Components for Fuel Cells and Oxygen Generators	\$ 175,000	\$ 175,000	\$ -	\$ 5,849,590	7	0	0	0	7	\$ 43,712
04/30/07	Applied Sciences, Inc.	Low Cost Carbon Nanotube Production	\$ 174,657	\$ 175,000	\$ 227,074	\$ 7,333,970	0	0	0	0	0	\$ -
04/30/07	Biomec, Inc.	Commercialization of a New Biomaterial for Blood Pumps	\$ 173,802	\$ 173,802	\$ -	\$ 8,603,758	4	0	0	0	4	\$ 31,200
04/30/07	FAFADAY TECHNOLOGY INC	Memory Magic Game	\$ 175,000	\$ 175,000	\$ -	\$ 5,400,808	3	0	4	0	7	\$ 75,000
09/31/07	FARAADY TECHNOLOGY INC	Commercialization of an Advanced Semiconductor Business & Marketing Dvypmt for Comm. MGB2 Superconducting Wires for Med. Pwr. & Population	\$ 157,475	\$ 157,475	\$ -	\$ 4,500,000	0	0	2	0	2	\$ 63,994
04/30/07	Hyper Tech Research, Inc.	Commercialization of Large Area Flexible Plasma	\$ 174,756	\$ 174,756	\$ -	\$ 5,051,916	4	0	0	0	4	\$ 53,511
04/30/07	Imaging Systems Technology, Inc.	High Volume Sphere Handling Equipment for the Comm. of Large Area Flexible Plasma	\$ 175,000	\$ 175,000	\$ -	\$ 2,232,000	4	0	2	2	8	\$ 60,000
04/30/07	MOUND LASER & PHOTONICS CENTER INC	Commercialization of Laser-Based Microfabrication Technologies	\$ 174,673	\$ 174,673	\$ -	\$ 11,800,452	38	0	2	2	40	\$ 50,554
09/30/07	Nextech Materials, Ltd.	Direct Fuel Power Module A FC for Portable Power Applications	\$ 175,000	\$ 175,000	\$ -	\$ 505,840	1	0	1	0	2	\$ 84,000
07/31/07	Orbital Research, Inc.	Dry Electrodes for Cardiovascular Disease Management and Prevention	\$ 174,990	\$ 174,990	\$ -	\$ 1,972,935	2	0	2	4	6	\$ 54,500
04/30/08	SRICO INC	Transitioning Homeland Security Sensor System	\$ 174,797	\$ 174,797	\$ -	\$ 12,579,615	12	0	0	0	12	\$ 75,000
04/30/07	Welcore Technologies, Inc.	Accelerating Ohio's Composite Manufacturing Growth	\$ 175,000	\$ 175,000	\$ -	\$ 12,579,615	3	0	3	3	6	\$ 65,533
12/30/08	Cleveland Medical Devices, Inc.	ParkinSense: Quantitative Movement Disorder Assessment System	\$ 248,193	\$ 248,193	\$ 95,628	\$ 4,228,482	3	0	1	0	4	\$ 56,512
03/31/10	Aphaltron, Inc.	Digital Mirror Commercialization	\$ 350,000	\$ 350,000	\$ -	\$ 9,275,000	0	0	0	0	0	\$ 18,533
12/31/08	Kent Displays, Inc.	Web Manufacturing of Flexible LCD's	\$ 350,000	\$ 350,000	\$ -	\$ 7,418,099	1	0	2	0	3	\$ 64,000
06/30/08	Syscom Technology, Inc.	Market Entry and Initial Commercialization of Conductive Metal-clad Polymer Fiber	\$ 349,600	\$ 349,600	\$ -	\$ 3,160,856	1	0	11	1	13	\$ 70,525
06/30/09	Powdermel, Inc.	Light Weight Synthetic Foam (Synfoam) Product Commercialization and Production Capability Scale Up	\$ 350,000	\$ 350,000	\$ -	\$ 3,160,856	1	0	2	2	5	\$ 58,200
06/30/10	Wright Materials Research Company	Commercialization for Lightweight Foamed Composites for Ballistic Protection	\$ 350,000	\$ 350,000	\$ 19,175	\$ 350,000	5	0	0	0	5	\$ 33,500
11/31/08	Technology Management, Inc.	Accelerated Business Development for Commercialization of Thin SOFC Systems	\$ 350,000	\$ 349,223	\$ -	\$ 299,970	2	0	1	1	4	\$ 187,500
02/31/08	Mediatech Partners, LLC	Method for the Real Time Estimation of Parameters	\$ 350,000	\$ 350,000	\$ -	\$ 650,000	6	0	1	1	8	\$ 148,200
06/04/10	Mediatech Partners, LLC	VMetrics - Market Entry A Biomedical/Healthcare	\$ 344,513	\$ 344,513	\$ -	\$ 408,000	0	0	0	0	0	\$ 69,000
06/04/10	Zin, Technologies, Inc.	Normel: Proprietary Health Management	\$ 349,812	\$ 349,812	\$ -	\$ 13,347,030	6	0	3	2	11	\$ 64,235
06/04/10	Frontier Technology, Inc.	Fault Current Limiter Coils and Components	\$ 350,000	\$ 350,000	\$ -	\$ 1,820,703	2	0	0	0	2	\$ 57,519
06/30/10	Hyper Tech Research, Inc.	Shape Memory Polymer Coil and Components	\$ 350,000	\$ 350,000	\$ -	\$ 2,417,892	22	0	0	0	22	\$ 30
06/30/10	Corneisons Research Group, Inc.	Commercialization of the TracContour Therapeutic Insole System	\$ 350,000	\$ 350,000	\$ 232,169	\$ -	6	0	1	4	7	\$ 34,000
02/28/10	Acor Orthopaedic, Inc.	Commercialization of Hands-Free Technology	\$ 350,000	\$ 350,000	\$ 604,118	\$ 2,666,861	2	0	0	0	2	\$ 72,000
06/02/10	Think-A-Kove, Ltd.	Commercialization Laser Bond Inspection Technology	\$ 350,000	\$ 350,000	\$ 970,688	\$ 2,666,861	0	0	0	1	1	\$ 70,000
12/31/11	LSP Technologies, Inc.	Market Growth for Advanced Polymers	\$ 350,000	\$ 350,000	\$ 72,599	\$ 2,645,501	4	0	1	1	6	\$ 44,988
06/02/10	Spectra Group Limited, Inc.	Handheld Emissions Detector (HED) Commercialization Program	\$ 350,000	\$ 350,000	\$ -	\$ 1,391,231	0	0	3	0	3	\$ 75,000
12/31/10	L-3 Communications Nova Engineering Inc.	Commercialization of the Gabriel Magnetically Guided Feeding Tube	\$ 350,000	\$ 350,000	\$ -	\$ 2,995,000	4	0	0	0	4	\$ 71,250
06/02/10	Synco Medical Innovations, Inc.	TIanCoat for Automobile Manufacturers	\$ 339,588	\$ 339,588	\$ 311,664	\$ 758,897	3	0	0	0	3	\$ 118,165
09/30/11	UES, Inc.	Rapid Commercialization of Advanced Foam Pattern Material	\$ 349,992	\$ 349,992	\$ 2,097,579	\$ 2,947,254	5	0	5	0	10	\$ 37,961
12/02/10	FOPAT, LLC	Intelligent Robotic Machining	\$ 350,000	\$ 350,000	\$ 250,000	\$ -	1	0	0	0	1	\$ 60,000
05/18/12	Force Robots, LLC	Wind Turbine Blade De-Icing System	\$ 350,000	\$ 300,239	\$ 175,759	\$ 1,119,797	1	0	1	1	3	\$ 40,000
12/31/11	Kelly Aerospace Thermal Systems, LLC	Commercialization of Nano Graphene Composite Electrodes for Lithium Ion Batteries	\$ 349,998	\$ 349,998	\$ 290,941	\$ 2,519,808	10	0	4	4	14	\$ 54,519
05/18/11	Nanotek Instruments, Inc.	Commercialization of Nano Graphene Composite Electrodes for Lithium Ion Batteries	\$ 349,998	\$ 349,998	\$ 290,941	\$ 2,519,808	10	0	4	4	14	\$ 54,519
05/18/11	Acme Express, Inc.	Healthcare IT Industry and Healthcare Costs	\$ 350,000	\$ 350,000	\$ 394,811	\$ 1,493,500	2	0	2	0	4	\$ 67,000
05/18/11	Performance Polymer Solutions, Inc.	High Temperature Structural Adhesives	\$ 350,000	\$ 350,000	\$ -	\$ 915,000	1	0	0	0	1	\$ 46,000
05/18/12	Brighton Technologies Group, Inc.	Commercialization of Surface Energy Probe	\$ 350,000	\$ 350,000	\$ 416,041	\$ 1,224,334	2	0	2	0	4	\$ 65,000

OHIO RESEARCH SCHOLARS PROGRAM
Attraction of leading research talent to contribute to the growth of research centers of excellence within Ohio's academic institutions
August 2008 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
08/18/13	Cleveland State University	Molecular Cardiovascular Innovation	\$ 900,000	\$ 520,135	\$ 838,826	\$ 8,835,061	4	2	4	0	10	\$ 72,000
08/18/13	Kent State University	Research Cluster on Surfaces in Advanced Materials	\$ 15,292,382	\$ 12,014,492	\$ 13,880,908	\$ 17,059,529	0	9	0	0	9	\$ 75,656
08/18/13	University of Cincinnati	Propulsion & Advanced Life Management Systems	\$ 27,492,308	\$ 12,042,110	\$ 7,609,369	\$ 3,854,282	0	8	0	1	9	\$ 166,665
08/04/13	University of Toledo	Innovative Immunosuppressive Therapeutics	\$ 3,000,000	\$ 2,605,936	\$ 6,323,569	\$ 4,390,224	0	11	1	0	12	\$ 55,290
08/18/13	University of Toledo	Development and Evaluation of Spinal Implants	\$ 4,463,462	\$ 42,277	\$ 343,122	\$ 6,457,543	5	25	18	1	49	\$ 60,000
08/18/13	University of Toledo	Northwest Ohio Innovators in Thin Film Photovoltaics	\$ 8,938,462	\$ 2,500,000	\$ -	\$ 8,736,107	0	14	0	1	15	\$ 40,357
08/18/13	Ohio State University Research Foundation	Technology-Enabling and Emergent Materials	\$ 16,728,846	\$ 10,233,444	\$ 3,720,925	\$ 2,347,974	0	0	31	3	34	\$ 70,665
08/18/13	Ohio State University Research Foundation	Advanced Energy Systems via Green Industrialization	\$ 10,476,924	\$ 7,813,689	\$ 5,194,281	\$ 3,404,206	0	6	0	0	6	\$ 47,543
08/18/13	Ohio State University Research Foundation	Imaging Research & Innovation Network	\$ 19,867,308	\$ 10,113,262	\$ 3,749,136	\$ 12,435,990	0	19	0	0	19	\$ 111,300
08/18/13	University of Dayton	Ohio Academic Research Cluster for Layered Sensing	\$ 24,348,718	\$ 18,026,282	\$ 12,616,898	\$ 11,252,159	0	32	0	0	32	\$ 93,000
01/12/14	The University of Akron Research Foundation	Orthopaedic Research Cluster of Northeast Ohio	\$ 8,576,924	\$ 454,826	\$ 1,376,987	\$ 875,500	0	14	0	1	15	\$ 65,343

PRE-SEED FUNDED CAPITALIZATION PROGRAM
Increases availability of professionally managed capital and associated services to accelerate the growth of early-stage Ohio technology companies
June 2000 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
06/01/03	Sclerch	Sclerch Tech Validation Fund	\$ 825,000	\$ 832,500	\$ 986,327	\$ 20,530,000	4	0	0	0	4	\$ 85,000
06/03/13	Technolumbus, Inc.	Technolumbus Reservoir Fund	\$ 1,625,000	\$ 1,625,000	\$ 18,375,000	\$ 350,975,959	276	0	0	15	291	\$ 62,600
06/01/02	Early Stage Partners	0	\$ 1,625,000	\$ 1,625,000	\$ 40,872,501	\$ 284,930,000	280	0	0	0	280	\$ 70,000
12/31/07	Science & Technology Campus Corporation	Sclerch Technology Validation Fund	\$ 350,000	\$ 350,000	\$ 373,132	\$ 8,723,866	19	0	0	0	19	\$ 79,333
09/30/06	ENTREPRENEURS FUND LLC	E-Fund Capitalization Project	\$ 1,000,000	\$ 1,000,000	\$ 1,016,962	\$ 60,927,400	222	3	186	0	411	\$ 54,778
12/31/13	Reservoir Ventures Partners II, LP	Reservoir Ventures Partners II	\$ 1,150,000	\$ 1,150,000	\$ 23,850,000	\$ 144,774,431	204	0	128	0	332	\$ 56,800
06/01/09	Science & Technology Campus Corporation	1st Filly Validation Fund	\$ 1,000,000	\$ 1,000,000	\$ 1,453,878	\$ 31,156,661	43	0	0	0	43	\$ 80,237
09/30/05	CLEVELAND TECHNOLOGY FOUNDATION	Cleveland Clinic Foundation	\$ 342,650	\$ 1,080,000	\$ 1,453,878	\$ 91,183,978	50	0	0	0	50	\$ 89,308
09/30/10	BIOENTRPREISE CORPORATION	Organizing biotech/Pharm Seed Fund I	\$ 942,000	\$ 942,000	\$ 3,354,446	\$ 48,552,081	50	0	0	0	50	\$ 94,763
09/30/10	Case Western Reserve University	Case Technology Venture	\$ 979,000	\$ 979,000	\$ 1,345,530	\$ 139,939,000	39	0	0	2	41	\$ 82,939
12/31/06	OCA First Fund, LLC	OCA First Fund	\$ 979,000	\$ 979,000	\$ 500,000	\$ 23,913,489	31	0	0	2	33	\$ 76,512
12/1/06	NEOPENURE TECHNOLOGY	NEOpenure Technology Validation Fund	\$ 1,162,111	\$ 1,179,276	\$ 756,511	\$ 106,855,110	110	0	12	8	130	\$ 94,095
01/24/12	COALITION	Blue Chip Validation Fund	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 23,287,360	8	0	0	0	8	\$ 65,500
01/24/12	Cleveland Clinic Foundation	BioValidation Fund	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 159,880,448	137	0	19	0	156	\$ 89,674
01/24/13	Diaper Triangle Partners II, LLC	Diaper Triangle Ventures II, LP	\$ 1,000,000	\$ 971,976	\$ 71,636,364	\$ 272,502,910	292	0	11	0	303	\$ 77,406
01/24/12	OCA First Fund II, LLC	OCA First Fund II	\$ 1,000,000	\$ 1,000,000	\$ 500,000	\$ 77,473,590	68	0	4	4	72	\$ 94,426
07/08/09	OCA First Fund II, LLC	Queen City Angels First Fund II	\$ 500,000	\$ 500,000	\$ 450,000	\$ 12,852,275	36	0	0	3	39	\$ 92,024
01/24/12	Children's Hospital Medical Center	05 Tomorrow Fund	\$ 500,000	\$ 508,550	\$ 582,723	\$ 33,279,495	36	0	2	2	40	\$ 65,482
01/24/08	JumpStart, Inc.	2005 JumpStart Evergreen Technology Validation Fund	\$ 2,000,000	\$ 2,000,000	\$ 1,000,000	\$ 88,123,240	147	0	14	17	178	\$ 72,943
05/30/13	JumpStart, Inc.	2006 JumpStart Pre-Seed Fund	\$ 1,500,000	\$ 1,500,000	\$ 750,000	\$ 7,458,765	51	0	0	1	52	\$ 69,503
05/22/13	Technolumbus, Inc.	Technolumbus Regional Commercialization Fund	\$ 1,100,000	\$ 950,000	\$ 550,000	\$ 14,289,600	4	0	27	12	43	\$ 49,950
05/31/13	University of Cincinnati	Southern Ohio Creates Companies Pre-Seed Fund	\$ 1,985,921	\$ 2,000,000	\$ 1,162,053	\$ 92,928,613	65	0	35	5	105	\$ 91,268
06/04/11	NCT Private Equity Fund, LLC	NCT Pre-Seed Initiative	\$ 2,000,000	\$ 2,000,000	\$ 950,395	\$ 158,282,962	281	0	27	0	308	\$ 88,550
06/30/12	JumpStart, Inc.	JumpStart Pre-Seed Fund	\$ 2,000,000	\$ 1,900,789	\$ 625,000	\$ 33,137,078	15	0	4	4	23	\$ 98,370
06/30/12	North Coast Angel Fund, LLC	07 Tomorrow Fund	\$ 1,000,000	\$ 1,000,000	\$ 500,000	\$ 55,465,341	59	0	0	9	68	\$ 80,454
09/08/13	Children's Hospital Medical Center	Innovation Alliance Fund	\$ 500,000	\$ 500,000	\$ 2,000,000	\$ 28,198,675	16	0	0	36	52	\$ 75,370
09/08/13	Lorain County Community College	JumpStart Pre-Seed Fund 09-033	\$ 2,000,000	\$ 425,000	\$ 212,500	\$ 59,448,123	72	0	0	5	77	\$ 75,326
09/08/13	JumpStart, Inc.	Emerging Market Fund	\$ 500,000	\$ 2,000,000	\$ 1,500,000	\$ 5,444,628	11	0	0	0	11	\$ 66,266
09/08/13	OCA First Fund III, LLC	OCA First Fund III	\$ 1,500,000	\$ 1,500,000	\$ 1,500,000	\$ 54,173,867	141	0	141	43	325	\$ 54,430
09/08/13	NCT Ventures Fund I LP	Innovation Fund	\$ 1,625,000	\$ 1,300,000	\$ 1,325,000	\$ 26,103,881	64	0	3	67	74	\$ 67,055
07/27/11	Lorain County Community College	Ohio TechAngel Fund III	\$ 900,000	\$ 900,000	\$ 450,000	\$ 2,133,789	34	0	5	5	39	\$ 35,131
07/27/11	Technolumbus, Inc.	Technolumbus PreSeed Fund II	\$ 675,000	\$ 675,000	\$ 337,500	\$ 17,449,664	27	0	3	10	40	\$ 69,051
07/27/11	JumpStart, Inc.	JumpStart Existing PreSeed Fund	\$ 800,000	\$ 800,000	\$ 2,203,091	\$ 73,235,110	172	0	17	0	189	\$ 77,387
01/19/13	Cleveland Clinic Foundation	BioValidation Fund II	\$ 500,000	\$ 500,000	\$ 500,000	\$ 713,496	32	0	2	2	34	\$ 36,733
07/19/13	Technolumbus, Inc.	Technolumbus Pre-Seed Fund III	\$ 825,000	\$ 423,750	\$ 423,750	\$ 60,750,487	109	0	0	0	109	\$ 80,438
07/19/13	Ohio Tech Angel Fund III, LLC	Ohio Tech Angel Fund III	\$ 2,000,000	\$ 2,000,000	\$ 2,000,000	\$ 76,219,479	75	0	9	0	84	\$ 69,582
07/19/13	Cleveland Clinic Foundation	Technolumbus PreSeed Fund III	\$ 2,000,000	\$ 884,656	\$ 884,656	\$ 1,616,193	5	0	0	0	5	\$ 71,333
03/14/14	Technolumbus, Inc.	North Coast Angel Fund II, LLC	\$ 2,000,000	\$ 1,616,193	\$ 1,616,193	\$ 9,559,663	4	0	0	0	4	\$ 52,458
03/14/14	Cleveland Clinic Foundation	Ohio BioValidation Fund IV	\$ 2,000,000	\$ 1,117,500	\$ 1,117,500	\$ 135,000	0	0	0	0	0	\$ -
03/14/14	Cincinnati USA Regional Chamber	Cincy/Tech Fund II	\$ 3,656,869	\$ 3,142,355	\$ 2,580,542	\$ 9,559,663	4	0	0	0	4	\$ 83
03/14/14	Childrens Hospital Medical Center	Tomorrow Fund II	\$ 2,000,000	\$ 233,478	\$ 233,478	\$ 486,000	2	0	4	4	6	\$ 80,000
03/14/13	NDI Healthcare Fund, LLC	NDI Healthcare Fund Capitalization Project	\$ 2,000,000	\$ 1,257,027	\$ 3,804,236	\$ 14,284,333	6	0	13	0	22	\$ 104,604
03/14/14	North Coast Angel Fund II	North Coast Angel Fund II - Cont'd	\$ 2,000,000	\$ 244,000	\$ 244,000	\$ -	0	0	0	0	0	\$ -
03/14/14	JumpStart, Inc.	JumpStart Evergreen Fund Continuation	\$ 2,000,000	\$ 1,500,000	\$ 1,500,000	\$ 4,627,827	24	0	0	0	24	\$ 64,502
03/14/14	Lorain County Community College Foundation	Innovation Fund - Expanding Innovation Fund Awards and Collaboration	\$ 2,000,000	\$ 880,000	\$ 487,500	\$ 2,868,187	92	0	92	18	202	\$ 33,927

PHOTOVOLTAICS CLUSTER PROGRAM
Supports R&D that addresses technical and cost barriers to market commercialization in Ohio of photovoltaics components and systems
January 2010 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
01/25/12	Five Star Technologies, Inc.	Commercialization of Specialty Electronic Inks for Advances in Photovoltaic Technology	\$ 1,000,000	\$ 1,000,000	\$ -	\$ -	0	0	0	0	0	\$ -
01/25/12	Glass Tech, Inc.	Commercialization of Heat Treating Process to Strengthen Large, Thinner Glass Substrates for PV Panels	\$ 1,000,000	\$ 1,000,000	\$ -	\$ -	0	0	0	0	0	\$ -
07/31/12	Ferro Corporation	Advanced Durability Sealing Systems for Solar Cells	\$ 1,000,000	\$ 1,000,000	\$ 1,000,000	\$ 87,000	2	1	2	0	5	\$ 60,000
03/28/13	Replex Mirror Company	Low-Cost Low-Concentration Photovoltaic (LCPV) Systems for Mid-Northern Latitudes	\$ 1,257,500	\$ 1,140,579	\$ 1,211,882	\$ 1,925	2	0	1	0	3	\$ 47,500
07/25/12	Xunlight Corporation	Next Generation Solar Module Manufacturing Technology	\$ 999,271	\$ 999,271	\$ 1,141,638	\$ 1,650,000	9	0	0	0	9	\$ 37,200
03/29/13	SCI Engineered Materials, Inc.	Commercialization of Advanced Attachment Technology for Rotatable Ceramic Spinning Ranges	\$ 775,400	\$ 672,803	\$ 922,649	\$ 360,222	1	0	0	0	1	\$ 29,120
03/14/13	Greenfield Solar Inc.	Low Cost Concentrated PV Design	\$ 1,000,000	\$ 796,282	\$ 784,386	\$ 3,130,285	0	0	14	1	14	\$ 52,637
03/14/13	Case Western Reserve University	Mirror-Adapted Solar Photovoltaic Systems: Durability and Lifetime Validation	\$ 899,818	\$ 430,720	\$ 466,422	\$ -	0	0	0	0	0	\$ -
05/09/13	Tom Richards, Inc., dba Process Technology	Commercialization of In-Line Heater for Use in Photovoltaic Solar Cell Manufacturing	\$ 357,713	\$ 218,180	\$ 196,634	\$ -	3	0	0	0	3	\$ 62,000
03/14/13	Energy Focus, Inc.	High Efficiency Photovoltaic Enabled Off-Grid System	\$ 1,000,000	\$ 489,413	\$ 563,502	\$ 2,600,000	2	0	4	0	7	\$ 45,000
03/14/13	Dye Inc Solar, Inc.	Dye-Sensitized PV Architectural Glass	\$ 950,000	\$ 950,000	\$ 950,000	\$ -	10	0	0	0	10	\$ 94,600

THIRD FRONTIER ACTION FUND
Provides financial support to projects that contribute to technology-based economic development
June 2002 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
06/30/07	COPERNICUS THERAPEUTICS INC	Pulmonary Gene Transfer: Aerosol Development	\$ 1,085,164	\$ 1,085,164	\$ 503,088	\$ 7,213,340	6	0	0	0	6	\$ 44,583
09/30/05	LEADSCOPE INC	Chemical Genomics Discovery Platform with Novel Informatics Methods to Link Genes to Drugs	\$ 721,411	\$ 721,411	\$ 369,382	\$ 5,928,000	0	0	14	0	14	\$ 77,000
03/31/05	Hyper Tech Research, Inc.	Development and Commercialization of Low Cost, Long Length Superconductors	\$ 800,000	\$ 800,000	\$ 1,340,578	\$ 918,026	13	0	3	0	16	\$ 43,443
01/31/05	IMMULUX CORPORATION	Development of Optical Coherence Tomography in Management of Cervical and Vulvar Cancer	\$ 542,000	\$ 542,000	\$ 271,001	\$ 18,430,000	8	0	0	0	8	\$ 95,000
06/30/05	GENE EXPRESS INC	Commercialization of Services and Reagents for Standardized RT-PCR	\$ 979,000	\$ 979,000	\$ 881,868	\$ 10,267,582	12	0	0	0	12	\$ 89,921
06/30/05	POLY DISPLAY INC	Ultra-Thin Full Color Flexible Liquid Crystal Displays	\$ 375,725	\$ 375,725	\$ 202,293	\$ 531,000	1	1	0	0	2	\$ 20,000
06/30/06	UNIVERSITY HOSPITALS OF CLEVELAND	Genetically Eng. Cell Lines for Improving Influenza Vaccine Production & Rapid Respiratory Virus Det	\$ 401,390	\$ 401,390	\$ 219,322	\$ 120,000	2	2	4	0	8	\$ 46,000
09/30/05	THEKEN SPINE LLC	Rapid Implant Development	\$ 713,233	\$ 713,233	\$ 1,119,534	\$ 6,450,000	5	2	0	0	7	\$ 60,000
12/31/05	YSL, Inc.	Rapid Detection of Bioterrorism Agents in Water Supplies	\$ 904,141	\$ 904,141	\$ 512,344	\$ 2,160,000	0	0	2	0	2	\$ 70,000
12/1/05	WESTERN DATA COM CO INC	Secure IP Network Project	\$ 774,741	\$ 774,741	\$ 382,000	\$ -	0	0	0	0	0	\$ -
12/1/05	NDI MEDICAL LLC	Implantable Neuromodulation System for Urinary Incontinence	\$ 924,491	\$ 924,491	\$ 1,332,182	\$ 14,302,611	39	0	0	0	39	\$ 77,554
12/1/05	Imaging Systems Technology, Inc.	Commercialization of Low Cost Plasma Displays Using Microspheres	\$ 622,932	\$ 622,939	\$ 1,861,194	\$ 3,875,000	11	1	5	0	17	\$ 60,000
12/31/06	PHYLOGENY INCORPORATED	Tissue Microarray Commercialization	\$ 1,128,242	\$ 1,128,242	\$ 789,897	\$ 1,800,000	6	2	0	0	7	\$ 30,000
12/1/05	COOLING TECHNOLOGIES INC	Market Introduction of Alternative Energy Absorption Cooling for Distributed Generation	\$ 483,700	\$ 484,213	\$ 242,871	\$ 425,000	2	0	0	0	2	\$ 87,500
09/30/08	Superconductive Components, Inc.	Commercialization of Low Cost Ceramic Sputtering Targets for Lithium Thin Battery Manufacture	\$ 1,175,321	\$ 1,175,321	\$ 1,350,271	\$ 3,852,712	2	0	0	0	2	\$ 58,480
12/1/06	OPTICAST INC	Commercialization of Spectacle Lenses	\$ 859,691	\$ 859,691	\$ 771,462	\$ 3,204,781	14	0	0	0	14	\$ 54,375
12/1/06	BIOPROCESSING INNOVATIVE COMPANY INC	Low Cost Bio Chips and Sensors for Medical Diagnostics and Chem/Bio Weapons Detection	\$ 975,881	\$ 975,881	\$ 591,543	\$ 886,000	7	3	1	0	11	\$ 45,000
06/30/06	GRINDUS AMERICA INC	Dipnucleotide Manufacturing Facility	\$ 1,162,111	\$ 1,162,111	\$ 7,383,230	\$ 20,022,533	19	0	0	1	20	\$ 77,193
03/31/06	TECHNOLOGICAL MANAGEMENT	Lean Product Dev. And Innovation	\$ 1,886,563	\$ 1,886,563	\$ 11,042,451	\$ 24,727,630	93	0	99	0	192	\$ 40,000
06/30/07	EMITEC	Northern Ohio Center of Excellence in Product Development	\$ 660,506	\$ 660,506	\$ 866,506	\$ -	5	1	4	0	10	\$ 65,000
06/30/12	EMITEC	FDQ Center for Accelerated Product Development	\$ 1,200,000	\$ 734,755	\$ 1,331,436	\$ 13,230,000	29	0	2	0	31	\$ 40,000

TARGETED INDUSTRY ATTRACTION PROGRAM
 Focuses resources and incentives on the attraction of companies to build critical mass in selected growth industries in Ohio
 May 2007 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/11	Amvlin Ohio, LLC	New Production Facility	\$ 1,500,000	\$ 1,500,000	\$ 500,000	\$ 8,204,583	282	0	0	0	282	\$ 52,000
01/16/12	Zyvek Performance Materials, Inc.	Zyvek Relocation	\$ 1,000,000	\$ 1,000,000	\$ 1,665,472	\$ 8,204,583	6	0	6	0	12	\$ 84,107
04/07/10	ViewRay, Inc.	TIA-ViewRay 09-000	\$ 250,000	\$ 250,000	\$ 900,000	\$ 10,000	0	0	0	0	0	\$ -
01/12/11	Procy Biomedical, Inc.	Procy Biomedical Relocation	\$ 160,000	\$ 160,000	\$ 307,943	\$ 10,000	5	0	0	1	6	\$ 89,000
12/31/11	Rolls-Royce Fuel Cell Systems (US), Inc.	Machinery and Equipment Expansion Project	\$ 750,000	\$ 750,000	\$ 250,000	\$ -	0	0	0	0	0	\$ -
05/22/13	Timken Company	Wind Energy Research and Development Center-TIA	\$ 900,000	\$ 267,500	\$ -	\$ 5,342,114	0	0	0	0	0	\$ -
07/11/13	ThyssenKrupp Bilstein of America, Inc.	Business Expansion	\$ 500,000	\$ 500,000	\$ -	\$ 10,000,000	0	0	185	0	185	\$ 49,296
08/29/13	Science Application International Corporation	Creation of a New Research and Development Location-Beavercreek	\$ 400,000	\$ -	\$ -	\$ -	41	0	0	0	41	\$ 90,735
08/29/13	Science Application International Corporation	Creation of a New Research and Development Location-Springfield	\$ 150,000	\$ -	\$ -	\$ -	0	0	11	0	11	\$ 102,152
07/09/13	Honda of America Mfg., Inc.	Restoration and Resurfacing of High Speed Test Track in East Liberty, Ohio, Logan	\$ 3,000,000	\$ 1,011,500	\$ -	\$ 5,529,500	0	0	180	0	360	\$ 38,958

TECHNOLOGY VALIDATION & STARTUP FUND
 Supports commercialization of protected technologies developed at Ohio research institutions as well as Ohio start-up companies that license these technologies.
 July 2011-2 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
07/23/13	Case Western Reserve University	Development of Novel Tools for Health IT - GENA	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	GraphSQL, Inc.	SuperGraphSQL: A Unified SQL and Graph Analytic Engine For Massive Graph Analysis	\$ 100,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	Kent State University	Controlled Cracking of TPO on Plastic Substrates	\$ 48,109	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	Kent State Universities	Interoperating Medication Controller for mHealth Management of Chronic Illnesses	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	Ohio University	Trajectory Tracking Flight Controller by Trajectory Linearization	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	OsteoDynamics, Inc.	Commercial Development of an Osteoporosis Diagnostic Device	\$ 100,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	ph Mater, LLC	Commercialization of Cathodes for Electrochemical Application	\$ 100,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	University of Akron	Polyisobutylene (PIB) Based Elastomeric Polymer Coating for Wound Healing and Closure	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	University of Akron	Shape Memory Alloy Thermal Energy Harvesting	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
07/23/13	University of Toledo	Plasmonic Based Biomarker Sensing Technology	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
10/15/13	Children's Hospital Medical Center	Suicide Risk Index (SRI)	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
10/15/13	Children's Hospital Medical Center	Neonatal Intensive Care Unit	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -
12/17/13	University of Toledo	Injectable Bone Cement	\$ 50,000	\$ -	\$ -	\$ -	0	0	0	0	0	\$ -

WRIGHT CENTERS OF INNOVATION - BIOMEDICAL
 Establishes large-scale, world-class research and technology development centers to accelerate the pace of commercialization in Ohio
 July 2003 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
01/10/10	Ohio State University Research Foundation	The Biomedical Structural, Functional and Molecular Imaging Enterprise	\$ 17,114,359	\$ 17,114,359	\$ 49,854,592	\$ 103,315,723	120	63	191	5	379	\$ 136,600
07/30/07	Case Western Reserve University	Center for Stem Cell and Regenerative Medicine	\$ 19,497,685	\$ 19,497,685	\$ 30,747,845	\$ 97,069,048	20	50	0	0	70	\$ 51,800
06/15/09	Children's Hospital Medical Center	Computational Medicine Center	\$ 27,701,076	\$ 27,701,076	\$ 55,874,277	\$ 196,992,081	28	195	0	0	223	\$ 64,478
12/31/11	Cleveland Clinic Foundation	Atrial Fibrillation Innovation Center	\$ 22,989,847	\$ 22,989,847	\$ 46,924,301	\$ 44,370,359	59	16	8	0	83	\$ 77,222

WRIGHT CENTERS OF INNOVATION - ENGINEERING
Establishes large-scale, world-class research and technology development centers to accelerate the pace of commercialization in Ohio
July 2004 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary/All Jobs
01/10/09	Case Western Reserve University	Wright Fuel Cell Group - Capital	\$ 19,665,044	\$ 19,450,040	\$ 37,462,652	\$ 18,641,048	58	30	0	0	88	\$ 75,202
12/31/09	Wright State University	dayrOhio - CAPITAL	\$ 12,603,750	\$ 12,601,797	\$ 41,731,936	\$ 46,204,648	150	22	50	2	224	\$ 65,000
06/15/07	OHIO STATE UNIVERSITY RESEARCH FOUNDATION	Ohio Center for Advanced Propulsion and Power - CAPITAL	\$ 11,270,000	\$ 11,270,000	\$ 18,662,944	\$ 109,994,183	0	179	0	0	179	\$ 60,000
08/30/13	Ohio State University Research Foundation	Ohio BioProducts Innovation Center	\$ 11,589,947	\$ 11,268,119	\$ 21,793,895	\$ 71,157,398	24	34	0	0	58	\$ 63,600
09/30/10	OHIO STATE UNIVERSITY RESEARCH FOUNDATION	Center for Multifunctional Polymer Nanomaterials & Devices	\$ 22,489,845	\$ 22,489,845	\$ 52,123,267	\$ 518,470,886	18	15	54	0	87	\$ 59,022
12/31/11	University of Dayton	Advanced Sensor Technology	\$ 28,000,000	\$ 28,000,000	\$ 49,834,065	\$ 79,950,381	255	70	0	0	325	\$ 55,000
11/28/11	UNIVERSITY OF TOLEDO	Photovoltaic Innovation & Commercialization	\$ 18,639,238	\$ 18,387,239	\$ 32,438,102	\$ 102,251,753	232	79	30	0	341	\$ 46,771
03/31/14	Cleveland State University	Wright Center for Sensor Systems Engineering	\$ 23,640,576	\$ 10,657,579	\$ 20,924,614	\$ 9,947,763	17	29	1	1	48	\$ 64,467

WRIGHT MEGA CENTER OF INNOVATION - ENGINEERING
 Establishes large-scale, world-class research and technology development centers to accelerate the pace of commercialization in Ohio
 February 2007 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary (All Jobs)
12/31/16	CLEVELAND CLINIC FOUNDATION	Cardio Innovation Center	\$ 59,995,068	\$ 33,768,800	\$ 93,910,629	\$ 329,458,532	288	13	0	0	281	\$ 76,804

WRIGHT PROJECTS PROGRAM
University - Industry partnerships to establish world-class research and technology development centers
July 2003 through December 2012

Project End Date	Organization	Project Title	State Funds Awarded	State Funds Expended	Cost Share Reported	Total Leverage	Jobs Created for Profit	Jobs Created Not for Profit	Jobs Retained	Jobs Vacant	Jobs Total Created/Retained	Average Salary/All Jobs
07/09/07	Bowling Green State University	Photostimulation and Photopolymerization Laboratory	\$ 2,000,000	\$ 2,000,000	\$ 2,971,285	\$ 8,534,985	2	18	0	0	20	\$ 30,000
07/10/06	National Center For Composite Systems Technology	Creating Affordable Large-scale Complex Composite Products	\$ 2,000,000	\$ 2,100,000	\$ 4,255,018	\$ 2,283,786	2	3	0	0	8	\$ 50,000
07/09/07	Ohio State University Research Foundation	Low Cost Nanocomposite Foams	\$ 2,000,000	\$ 1,759,430	\$ 6,376,111	\$ 15,900,000	3	5	0	0	8	\$ 50,000
07/10/06	Stark State College of Technology	Advanced Prototyping User Center	\$ 2,000,000	\$ 1,914,608	\$ 2,469,818	\$ 4,319,493	0	1	40	0	41	\$ 88,000
07/10/06	UNIVERSITY OF DAYTON	Conductive Multifunction Polymer Nanocomposites and Aerospace Composites	\$ 1,200,000	\$ 1,200,000	\$ 1,497,710	\$ 5,479,489	7	4	10	1	22	\$ 71,000
07/10/07	UNIVERSITY OF DAYTON	Development of Arrayed Micro-Optic Elements for Enhanced Infrared Image Detection	\$ 773,589	\$ 1,866,389	\$ 4,006,119	\$ 22,738,930	15	5	0	0	20	\$ 75,000
04/01/08	UNIVERSITY OF TOLEDO	Center for Photovoltaic Electricity and Hydrogen	\$ 2,099,920	\$ 2,099,920	\$ 3,657,364	\$ 9,933,264	45	17	0	0	62	\$ 63,000
06/15/07	NATIONAL CENTER FOR COMPOSITE SYSTEMS TECHNOLOGY	Long Fiber Thermoplastics for Low Cost, Light Weight Transportation	\$ 1,000,000	\$ 1,000,000	\$ 1,463,124	\$ 1,039,602	8	12	19	0	39	\$ 48,000
07/31/09	University of Dayton	Production of Multifunctional Carbon-Based Materials	\$ 2,100,000	\$ 2,100,000	\$ 4,899,024	\$ 1,370,000	2	5	0	0	7	\$ 65,000
04/01/08	Kent State University	Flexible Optical and Electronic Device Manufacturing Facility- Ink jet printing	\$ 1,740,000	\$ 1,366,788	\$ 2,245,629	\$ 20,840,000	45	1	0	0	46	\$ 55,662
12/31/09	TeachColumbus, Inc.	Platform Lab via the Third Frontier Network - Ohio Filament Network	\$ 1,174,000	\$ 1,174,000	\$ 3,054,293	\$ 15,370,432	6	3	4	0	13	\$ 50,000
10/01/10	North Central Campus For Emerging Technologies	Commercialization of Piezoelectric Fibers for Energy Storage and Smart Systems	\$ 2,038,000	\$ 1,855,000	\$ 2,534,575	\$ 1,000,000	1	0	0	0	1	\$ 55,000
09/30/09	Development Research Corporation	RFID Application and Commercialization of an Integrated Biomass to Electricity System	\$ 2,338,000	\$ 2,338,000	\$ 4,959,900	\$ 19,291,094	18	0	0	0	18	\$ 84,200
09/30/09	Ohio State University Research Foundation	Development and Commercialization of an Integrated Biomass to Electricity System	\$ 1,500,351	\$ 1,500,351	\$ 1,503,391	\$ 966,000	2	10	0	2	14	\$ 38,759
05/22/10	University of Dayton	Low-Cost Nanocomposite Tooling for Agile Manufacturing	\$ 2,100,000	\$ 2,100,000	\$ 4,583,945	\$ 743,900	4	4	0	0	4	\$ 60,000
11/22/09	James A. Rhodes State College	Advanced Materials Commercialization Center featuring a Green Physical Vapor Deposition Process	\$ 1,384,990	\$ 1,384,990	\$ 2,626,757	\$ 1,126,667	19	1	0	0	20	\$ 48,000
05/22/09	National Center For Composite Systems Technology	Nano-enhanced SMC Scale-up for Composite Part Production	\$ 1,800,000	\$ 1,800,000	\$ 2,225,607	\$ 2,365,774	1	2	7	0	10	\$ 77,500
05/22/09	Ohio State University Research Foundation	Superconductivity Technology Center	\$ 1,152,400	\$ 1,152,400	\$ 1,152,400	\$ 5,259,000	2	2	3	0	6	\$ 65,000
08/22/09	University of Toledo	A New Test Facility for Experimental Development of High-Speed Routing Components	\$ 1,000,000	\$ 1,000,000	\$ 1,261,317	\$ 1,569,000	2	2	3	0	7	\$ 50,000
08/04/11	Case Western Reserve University	Case Center for Surface Engineering	\$ 3,000,000	\$ 3,000,000	\$ 8,465,624	\$ 12,592,518	26	3	15	4	48	\$ 75,000
02/04/12	Northwestern Ohio Universities College of Medicine	Ohio-based Research & Commercialization of a Real-Time Pathogen Detection Instrument	\$ 3,000,000	\$ 3,000,000	\$ 3,774,394	\$ 9,010,164	9	0	0	1	10	\$ 45,300
12/31/11	James A. Rhodes State College	Expansion of Industry/Education Partnerships for Fuel Cell Commercialization	\$ 3,000,000	\$ 3,000,000	\$ 11,863,868	\$ 18,366,754	54	10	0	0	64	\$ 53,200
06/30/12	Stark State College of Technology	Center for Excellence in Advanced Materials Analysis	\$ 2,115,600	\$ 2,115,600	\$ 2,117,367	\$ 1,517,406	1	0	2	0	1	\$ 63,755
02/04/11	Youngstown State University	Development of a Very High Power Ultrasonic Additive Manufacturing System for Advanced	\$ 2,511,325	\$ 2,511,325	\$ 3,084,772	\$ 1,230,000	1	3	0	0	4	\$ 64,000
02/14/13	Ohio State University Research Foundation	A Domestic Source of Natural Rubber and New Industry for Ohio and the US	\$ 3,000,000	\$ 2,921,285	\$ 479,633	\$ 690,600	0	4	8	0	12	\$ 29,973
04/30/13	University of Dayton	Center for UAV Exploration	\$ 3,000,000	\$ 2,078,403	\$ 5,139,666	\$ 14,329,995	37	6	1	0	43	\$ 61,303
01/31/13	Ohio State University Research Foundation	Bio-Based and Nano-Filled Composites	\$ 2,999,877	\$ 2,966,141	\$ 3,000,000	\$ 2,650,000	2	6	1	0	5	\$ 65,000
07/23/13	Cleveland Clinic Foundation	National Commercialization Accelerator	\$ 2,998,939	\$ 1,932,322	\$ 4,238,944	\$ 1,657,472	6	0	0	0	6	\$ 52,363
07/23/13	Case Western Reserve University	The Ohio Wind Energy Research and Commercialization Center	\$ 2,999,442	\$ 2,861,035	\$ 3,934,720	\$ 2,271,178	2	1	0	0	3	\$ 45,000
07/27/13	Ohio State University Research Foundation	Molecular Imaging SPeCT Technology Center	\$ 2,999,924	\$ 474,675	\$ 747,185	\$ 461,560	2	4	0	2	2	\$ 44,000
07/27/12	Ohio State University Research Foundation	Electric and Plug-In Hybrid Vehicle Technology	\$ 3,000,000	\$ 3,000,000	\$ 3,120,181	\$ 3,120,181	3	2	0	0	4	\$ 95,429
07/27/13	University of Cincinnati	Ohio Center for Laser Shock Processing for Advanced Materials and Devices	\$ 3,000,000	\$ 2,373,642	\$ 3,057,817	\$ 2,387,515	0	12	0	0	12	\$ 30,000
07/27/12	Stark State College of Technology	High Pressure Testing Systems	\$ 2,789,975	\$ 2,766,397	\$ 2,777,751	\$ -	1	0	0	0	1	\$ 88,000
07/19/13	University of Dayton	Hybrid Fabrics for Multifunctional Composites	\$ 3,000,000	\$ 683,480	\$ 2,211,454	\$ 154,215	2	2	0	0	6	\$ 65,000
07/19/13	University of Cincinnati	The Ohio Center for Microfluidic Innovation (OCMI)	\$ 2,956,675	\$ 2,432,122	\$ 2,617,663	\$ 948,750	14	14	0	0	28	\$ 73,000
07/19/13	Ohio State University	Center for Algal Engineering Research and Commercialization	\$ 2,970,063	\$ 1,631,741	\$ 1,589,234	\$ 1,007,000	3	3	0	0	4	\$ 66,700
07/19/13	Cleveland Clinic Foundation	Clinically Applied Rehabilitation Engineering (CARE)	\$ 3,000,000	\$ 785,150	\$ 2,631,716	\$ 750,000	0	3	0	0	3	\$ 38,623
07/19/13	The Ohio State University	Center of Excellence for Energy Storage Technology	\$ 3,000,000	\$ 68,887	\$ 1,603,090	\$ 3,231,769	2	0	0	0	2	\$ 82,500
07/19/13	Case Western Reserve University	Development of a Quantitative Analysis System for Stem Cells	\$ 2,100,000	\$ 2,759,801	\$ 2,484,673	\$ -	3	3	0	0	4	\$ 70,943
07/11/14	The Ohio State University	Heat/Ozone Biomedical Technology to Produce Safe Edges	\$ 2,100,000	\$ 251,075	\$ 4,016,810	\$ 6,910,658	1	5	0	1	6	\$ 44,817
07/11/14	Case Western Reserve University	Solar-Durability and Lifetime Extrusion Center	\$ 2,884,755	\$ 1,757,577	\$ 3,014,205	\$ 1,150,000	2	0	0	0	1	\$ 41,734
07/11/14	Edison Welding Institute, Inc.	Integrated Ultrasonic Additive Mig & Laser Machining for Realization of Novel Smart Structures	\$ 1,652,970	\$ 74,293	\$ 1,165,564	\$ 1,256,472	3	0	0	0	3	\$ 64,000