3161 FUNDED DEVELOPING AND SUPPORTING ENTREPRENEURSHIP AND ECONOMIC GROWTH OPPORTUNITIES THAT ARE ENVIRONMENTALLY SUSTAINABLE AT THE PORTS SITE

Task Report: Public Outreach - Developing and Supporting Entrepreneurship and Economic Growth Opportunities That Are Environmentally Sustainable at the PORTS Site

Sponsored by Ohio University's PORTSfuture Project

The PORTSfuture project is funded by a grant from the U.S. Department of Energy Office of Environmental Management Portsmouth/Paducah Project Office

PORTSFUTURE
IMAGINING THE OPPORTUNITIES, GATHERING YOUR IDEAS
THE FACILITY AT PIKETON, OHIO

Description and Overview

Worker transition and economic development opportunities in the region were the focus of the PORTSfuture Entrepreneurship task, specifically centered on education of, and engagement with, regional entrepreneurs. Intended recipients are current and potential entrepreneurs most closely affiliated with the PORTS facility, including former workers, current workers and regional businesses and families either closely affiliated with, or in some way affected by, the plant. Specific activities to achieve this overarching goal included:

1. Entrepreneur identification and opportunity for entrepreneurial education and engagement
2. Identification of environmentally sustainable options for plant site future use
3. Linking entrepreneurs to regional resources
4. An economic model and feasibility study to explore creating proof-of-concept and prototype development center at the PORTS facility
5. On-site workshops for site employees
6. Competition for regional college students centered on developing repurposing ideas for land, equipment and human resources at the PORTS site

Professional business services staff members fulfilling the PORTSFuture Entrepreneurship task were employees of TechGROWTH Ohio, an Ohio Third Frontier-supported, $32M, 7-year grant implemented by the Voinovich School of Leadership and Public Affairs at Ohio University Athens campus. For the State of Ohio, in the 20 counties of SE Ohio, TechGROWTH offers no-cost business advisory counseling to entrepreneurs and technology start-ups. TechGROWTH clients have the opportunity to apply for competitive small grant funding to subsidize certain third-party services for their nascent companies, most commonly including patenting, prototype development short-term executive staff, and conference materials and attendance. Highly successful, rapid-growth clients are also eligible for highly competitive pre-seed funding from TechGROWTH of an average of $250,000-$300,000 per client. In seven years' service to the region, TechGROWTH has assisted over 1,500 clients, provided small grants to over 700, and is currently guiding ten pre-seed clients toward follow-on funding and commercialization success.

Table One: Entrepreneur Identification and Education: Onsite Individual Business Counseling ((Activities #1 and #5 listed above)

Participation Summary

DATE	ATTENDEES	SIGN-UPS
September 2013 5 sessions	19	30
November 2013 2 sessions	7	5
December 2013 2 sessions	2	4
TOTALS	28	39

TechGROWTH business professionals and other advisory personnel from other entities in the region are available for consultation with any entrepreneur seeking guidance. However, in a sparsely-populated rural area, it is not guaranteed that even heavy messaging about the opportunity will reach all interested parties. Thus DOE chose to allocate a portion of the PORTSfuture Entrepreneurship task to specific counseling for current site employees, some of whose jobs may be short-lived.

Logistical arrangements for this task were challenging, as the TechGROWTH counselors traveled from Athens for the sessions, and the sessions were scheduled at the most convenient time for site workers 5 pm on weekdays. A pilot effort over three months in late 2013 met with interest.

Some overview sessions were given (see MS™ PowerPoint in Appendix Two). Most of the sessions were private one-on-one discussions with individual plant employees. Employee interest ranged from those who had never started a business and were seeking general information to those with a long-standing small business or an existing freelance LLC.

As the holiday season progressed, attendance fell off, but the TechGROWTH staff shared staffing of the final sessions with professionals from the Ohio State University Endeavor Center, located less than a mile from the PORTS reservation. The intent was to offer a closer connectivity with regional entrepreneurial support, assuming continued interest by site workers in entrepreneurial ideas.

Each site worker session was staffed by two TechGROWTH professionals. At least 20 minutes – and sometimes up to an hour – of individual, private counseling was provided to each attendee.

Table Two: Entrepreneur Identification and Education: Science Alliance (Activity #1)

Participation Summary

DATE	ATTENDEES	TRAINERS/FOCUS GROUP MEMBERS
October 2013	1,200	8

DOE's annual 'Science Alliance' for regional high school juniors netted a record 1,200 attendees from 23 SE Ohio schools in 2013. OU business consulting staff and trained graduate students were among the exhibitors. The business staff's Entrepreneurship Game was developed by Ohio University business students with professional business advisor oversight, and 'test driven' by high school juniors prior to the exhibit. The game melded a quiz-show-type competition featuring increasingly difficult business-related trivia questions with a competitive 'investment' in participant businesses, followed by a discussion of appropriate allocation of investment funding. Three, two-person teams from TechGROWTH staffed the event for its three consecutive days.

Table Three: Entrepreneur Identification and Education: Community Outreach (Activities #1, #3)

Participation Summary

DATE	ATTENDEES	PANELISTS AND PRESENTERS
October 2013 Pike County	>50	~ 10
November 2013 Ross County	>25	~ 10
May 2014 Jackson County	17	7
April 2014 Scioto County	>30	15
TOTALS	>120	

DOE's sponsorship was welcomed by approximately over 120 participants in four regional outreach events providing seasoned entrepreneurs' experience to a roomful of current and hopeful entrepreneurs (with a note that per DOE approval, the Scioto event coincided with the pitch competition finale, also noted in the below section). Coordinated by Ohio University professional business advisor In Piketon on October 9th 2013; at Ohio University - Chillicothe on November 14th 2013; and in Jackson on May 16th 2014, attendees heard an experienced-entrepreneur panel discuss the ways in which they started their businesses, the major challenges they faced, how they overcame their challenges, where help and funding was available, and their perspective on major take-aways for any new business owner. Following the panel, local business advisory entities explained their offerings. The panel sessions included robust back-and-forth between attending entrepreneurs and the panel, in a seminar-like exchange honed to individual attendees' specific queries.

Competition: College Business Pitch Competition (Activities #2, #6)

DOE's sponsorship of the first regional inter-institutional pitch competition was roundly praised by all participants. Students in higher educational institutions located in the four counties surrounding the plant participated in an academic exercise to innovate business ideas using some (or all) of the resources available at the reservation (including land, buildings, personnel and expertise). Participating institutions initially included Rio Grande University's Fultz Center Portsmouth campus, Ohio University's Chillicothe regional campus, and Shawnee State University (with only the latter two participating in the competitive rounds).

Based on the 'business pitch light' model from Ohio University's annual Center for Entrepreneurship competition, the process included a 2-3 hour seminar for select classes at regional educational institutions, periodic pitch review through 'GoToMeeting' online sessions, an in-institution round of competition, and a final round of competition between institutional finalists. Several key elements of the process made the experience very satisfactory to classrooms that advanced all the way through:

- The seminars in business modeling were very high-level, permitting easy entry into the process without deep understanding of any one element of business development
- The requirement that pitch ideas focus only on resources available at the PORTS reservation was key to creating a manageable learning opportunity deeply rooted in many students' family history and communities

Business ideas from the competing teams were:

1. Finalist: first place: Sky Energy, a solar and wind farm
2. Finalist, second place: Atom, nuclear energy facility
3. Finalist: third place: Athletes, a solar energy facility
4. Finalist: Nuke U, training in building, running and decommissioning nuclear facilities
5. Finalist: OrthoMed, innovative hip and knee replacements
6. ATCAF, a racetrack and energy efficient auto proposal
7. AMRCA, a military training facility
8. Banks & Devlin Co, metals recovery facility
9. Piketone Plastics, plastic recycling plant

Overall, the judges were impressed with team preparation and spirit. Through both levels, teams worked hard and successfully to implement multiple suggestions including honing the pitch, improving

technical and financial preparations, delving deeper into competitive landscape, market analysis, and partnering opportunities.

Participation Summary

Item	STUDENTS	TEAMS	TRAINERS/JUDGES/OFFICIALS
Classroom sessions, three institutions	>45		3
Plant tour	>35		~ 10
Regional round of competition, 2 inst.	30	10	~ 15
Final round of competition, 2 inst.	19	3	~ 15
TOTALS (individuals)	>45		~ 20

Both OU-Chillicothe and Shawnee State embraced the opportunity to the degree that each institution provided prize funding for winners at the regional and at the inter-campus level.

Economic Model/ Feasibility Study (Activities #2, #4)

Please note Appendix One for the feasibility study performed by expert consultant Tracy Kitts to fulfill this Scope element.

Conclusions

Overall Statistics

>70 plant employees and regional students of higher education received concentrated, individual training and coaching
>120 regional residents attended entrepreneurial roundtable discussions and Q&A
>1,000 regional residents and students engaged with entrepreneurial support service providers at regional summer Fairs and at the Science Alliance

DOE funding for the activities outlined above more broadly disseminated the concept of entrepreneurial endeavors as a viable option for site workers in general in for the unemployed or underemployed workers in particular. The activities emphasized the multiple ways in which regional entrepreneurs and new business start-ups have created success for themselves, their families, their employees and collaborating businesses.

General outcomes

1. One-on-one engagement with regional entrepreneurs at the plant
2. Concentrated small-group engagement with students and groups
3. Heightened visibility of regional entrepreneurial support services
4. Heightened visibility of and appreciation for DOE and site contractors supporting entrepreneurship

Continuity and Leverage of Future Entrepreneurial Support

DOE's support of this set of tasks was an important leveraging element for the entire SE Ohio entrepreneurial ecosystem. DOE-specific tasks, accomplished by business professionals already engaged in the community and cognizant of the many opportunities available here melded seamlessly with the overall strategic approach toward regional economic development.

Lessons-learned during the events are immediately useful for sustained and continuing entrepreneurial support. These include ongoing connectivity with entrepreneurs assisted during the one-on-one sessions and the roundtables by regional support services, and also new methods for reaching new potential clients in the site's four county labor market and beyond. The regional pitch competition with its focused approach on use of fallow regional resources is a model now under implementation elsewhere in SE Ohio.

The entrepreneurial support service staff appreciate DOE's engagement with the vital and ongoing initiative to seek, educate and enable our rural region's many entrepreneurs.

LIST OF APPENDICES TO FOLLOW

1. Feasibility Study by consultant expert Tracy Kitts
2. MS™ PowerPoints
    a. Outtake from original power point description: 'what do we do' slide
    b. Science Alliance 'game' deck
    c. Onsite entrepreneur deck
    d. Pitch competition deck
3. Curricula
    a. Materials from the pitch competition training
        i. Components of a successful pitch
        ii. Spark sheet
        iii. Elevator pitch practice
        iv. Judges' rubric
4. Email exchanges
    a. Note of appreciation to roundtable
    b. 12/12 entrepreneurial summary to Jason
    c. .pdf of Michelle's pitch competition overview

APPENDIX ONE: Feasibility Study by consultant expert Tracy Kitts

BUSINESS INCUBATION, ACCELERATION AND COMMERCIALIZATION

Pre-Feasibility Study for the PORTS Facility

Tracy Kitts, Principal
Tracy Kitts Consulting
May 31, 2014

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Executive Summary

The former Portsmouth Gaseous Diffusion Plant (PORTS) is located in Pike County, Ohio and is currently being decommissioned and decontaminated. The purpose of this report is to assess the feasibility of locating a proof of concept center, or similar facility, on the site. The purpose of this facility would be to validate/demonstrate technical solutions and to accelerate technology commercialization. This report analyzes the current entrepreneurial environment and existing commercialization support programs in the region. The report also considers the current skills and education of the PORTS workforce and provides a preliminary assessment of site assets that could be leveraged to spur new business development. Summary descriptions of various types of space-based [in situ] entrepreneur and commercialization programs are also provided.

The Piketon region, for the purpose of this report, is defined as the Ohio counties of Pike, Scioto, Adams, Jackson and Ross. The region's entrepreneurial environment lags behind many other regions in Ohio and nationally. Over the last ten years, there have been relatively few businesses started in the region and most of those businesses have grown only modestly. Since population growth in the region was flat or declined over the last ten years, indicating limited regional market opportunity, market opportunity is limited, suggesting that rapid growth requires out-of-region marketing success. While the region has not produced many new companies in the recent past, it does have significant transportation infrastructure and is geographically positioned central to many large U.S. markets. Companies that locate in the region will enjoy relatively low overhead and easy access to those markets.

There are a number of programs already available in the region to support early-stage companies, technology commercialization and export. These programs include the following:

- Small Business Development Center (SBDC)
- Manufacturing and Technology Small Business Development Center (MTSBDC)
- International Trade Assistance Center (ITAC)
- Manufacturing Extension Partnership (MEP)
- Entrepreneurial Signature Program (ESP)

There is also a business incubation facility, The Ohio State University Endeavor Center, located very near the PORTS site. The Endeavor Center works with all of the programs listed above, houses a number of technology companies and provides training relevant to entrepreneurs throughout the year.

The PORTS facility employed the equivalent of 1,793 full-time employees as of March 31, 2014. During the quarter there were 71 different job classifications represented at the plant. Over 25% of the employees were classified as a Decommissioning and Decontamination Worker. The next highest percentage of worker classification was Supervisor at only nine

percent. While there are a large number of workers at the plant, it is unclear how many have college degrees and/or certification. Over half of all business owners in the U.S. have a bachelor's degree or higher, so it is important to assess the education level of the workforce when considering investment in a space-based entrepreneur support facility. It is recommended that more research be done into the workforce at PORTS.

There is significant infrastructure at the plant site, but much of that infrastructure was built to support the uranium enrichment process. However, there are buildings and equipment on site that could be leveraged to support new business development. For example, the X-710 Technical Services Building houses labs and equipment that might be used for a standalone business. Other types of plant activities that might be spun out as separate businesses include physical and cyber security; industrial cleaning and maintenance; machining and fabrication; personal protection equipment training and maintenance. More research is necessary to fully assess how the buildings and infrastructure on site might be used to support new business activity.

As noted earlier, there is already a business incubation facility close to the PORTS site and there are numerous programs in place to support technology commercialization and entrepreneurship. It is recommended that a person be hired, or allocated, to better link resources (people, infrastructure and materials) at the plant site with these programs. This person would facilitate additional research to assess plant resources that might be used to spur new business development or support businesses that are already in the region. They would then coordinate with the entrepreneurship and technology commercialization services already available in the region to leverage this information. It is not recommended that a new space-based technology commercialization facility be started at the PORTS site.

Project Overview

As a part of the Department of Energy's Office of Environmental Management Portsmouth/Paducah Project Office PORTSFuture Project, the DOE requested exploration of the feasibility of creating a Proof of Concept and Prototype Development Center at the former Portsmouth Gaseous Diffusion Plant (PORTS) facility. The purpose of the center would be to validate/demonstrate technical solutions and to accelerate technology commercialization. Such a center might provide "lean launch" services to attract and support entrepreneurs on an on-going basis. The feasibility, and long-term sustainability, of space-based entrepreneur support programs (business incubators, seed accelerators, proof of concept centers, etc.) is dependent on myriad factors.

This report provides a description of relevant types of space-based entrepreneur support programs and a summary of best practices and challenges for each type. The report also provides an analysis of those factors that will affect feasibility of a new entrepreneur support facility at the PORTS facility. These factors include:

- Regional population changes
- Current number of new business starts in the region
- Existing entrepreneur support facilities and programs in the region
- Regional transportation and other infrastructure
- PORTS employee skills and education
- PORTS buildings and other infrastructure that can be leveraged to support new business activity

To supplement the analysis of these factors, the PORTS facility was toured and numerous discussions were conducted with community stakeholders and others working on economic development activities related to the plant site.

Space-based Entrepreneur Assistance Programs

There are a number of space-based programs that can be developed that focus on early-stage business development and/or product commercialization. Each has its strengths and weaknesses and, in practice, the defining line between one type of program and another is blurred. Many programs become hybrids that incorporate aspects from various models. Still, an understanding of the many different types of programs is important when considering strategies for creating new business opportunities and jobs in the Piketon, Ohio region. In this section, consideration will be given to those space-based programs most relevant to the creation of new businesses.

Business Incubation

Perhaps the oldest form of space-based program is business incubation. The earliest known business incubation program was started in Batavia, New York in 1956 (National Business Incbuation Assocation 2009). This early incubation program still exists as the Batavia Industrial Center though the program has changed dramatically from those early years. While the general concept of collocating early-stage businesses to provide business advisory assistance has not changed, the buildings and services provided have evolved to meet the needs of today's entrepreneurs. While early programs focused on providing inexpensive space and shared office services, more recent iterations of the model provide a wide range of services that support the development of early-stage companies. These include training on general business skills, access to capital, marketing assistance and access to mentors and coaches with specific industry knowledge.

Ohio is one of the few states that provide financial support for its business incubation programs. According to information from Ohio Development Services Agency, the state supports 11 business incubation programs. This is about one-third of the total number of business incubation programs in the state. While business incubation programs seldom have "business incubation" in their name, best practice incubation programs do the following things:

- They select the companies that enter the program. Generally, business incubation programs will only work with coachable companies that have the potential for successful growth.
- They primarily work with new companies (startups, early-stage, new markets).
- They provide on-site management that is well-versed in the startup process.
- They offer comprehensive business assistance.
- They graduate companies. In other words, they move companies through the program much like universities move students towards graduation.

A study was conducted by the Economic Development Administration of the Department of Commerce on the impact of its infrastructure investments. It was concluded that infrastructure investment in business incubation facilities netted the most jobs at the lowest cost per job. The study notes that "incubators provide up to 20 times more jobs than community infrastructure projects (e.g., water and sewer projects) at a cost of $144 to $216 per job compared with $2,920 to $6,872 for the latter (Managing Your HR n.d.). While bridges, roads and sewers are important, facilities and programs that promote and support entrepreneurs are also an important component of economic development.

Although business incubation programs can help spur job creation through new business creation, not every community can support a business incubation program. Program sustainability is a challenge that must be addressed. Successful business incubation programs must have a clear mission, adequate deal flow (a minimum number of continuously, new contractual arrangements that will generate adequate revenue or equivalent credit streams), professional management and sufficient funding (both private and public) to provide robust services to the entrepreneurial ventures they are designed to support. The National Business Incubation Association estimates that there are over 1,400 business incubation programs in the US and over 7,000 worldwide. But those that do not adhere to best practices and receive proper support from their communities do not produce successful graduate companies, nor are they likely to achieve longevity or a long-term impact.

The primary purpose of most business incubation programs is the creation of new companies that generate jobs and economic wealth in local communities. Other common goals include diversifying economies, building or accelerating new industries and attracting and retaining businesses. The reason that the business incubation model has endured is that it is adaptable. It can be argued that venture accelerators, seed accelerators and proof of concept centers all use significant elements of the business incubation model.

The Piketon region is served by The Ohio State University Endeavor Center which is a business incubation program located very near the PORTS facility. The Endeavor Center has been in existence for over ten years and houses a number of companies that contract work at the plant site. The center is highlighted later in this report along with the various programs that are

offered at the center designed to support the growth of early-stage companies and commercialization of technology.

Venture Accelerators

Venture acceleration programs operate much like business incubation programs. They select clients, provide comprehensive business assistance and exit, or graduate, companies. However, there are a number of key differences. First, venture accelerators are generally run as for-profit entities by venture funds. Furthermore, venture acceleration programs almost exclusively work with companies that have protectable intellectual property. Finally, while venture accelerators can certainly impact local economies in a positive way, the primary goal of venture acceleration programs is return on investment for the owners/investors that run the program.

The first venture accelerators came into existence during the dot com boom of the 1990s. Venture investors wanted to provide technical assistance to their portfolio of companies and, in turn, reduce failure risk. The dot com bust of the early 2000s led to the demise of most of these programs. While these early venture acceleration programs would invest in early-stage companies, the few programs that remain focus their attention on later stage ventures that incur less risk.

Seed Accelerators

Seed accelerators provide seed investment and intensive training to startup companies that are accepted into their program. The two most well-known seed acceleration programs are Y-Combinator in Silicon Valley and TechStars which started in Boulder, Colorado. TechStars has since opened in a number of US locations and has franchised their model to a number of other programs (Wikipedia 2014).

Seed acceleration programs vary in their approach, but nearly all of them offer funding and some amount of technical assistance to the companies that apply, and are selected, for the program. For example, TechStars programs only offer assistance and funding to one percent of those that apply. When selected, TechStars programs provide three months of mentorship, access to $18,000 in seed funding and an optional $100,000 in convertible debt to each company (Techstars n.d.). This money is provided by private venture funds and angel investors. The goal of nearly all seed acceleration programs is return on investment for those private investors.

There are many communities around the world trying to recreate the success of Y-Combinator and TechStars. The model has challenges. First, only a very small number of companies are admitted into the programs. Smaller communities might have a hard time generating an acceptable number of quality applicants. Second, some programs take a large amount of equity for their relatively small seed investments. While Y-Combinator takes only seven percent equity, there are some programs that take as much as 50 percent equity (Fankhauser 2013) . This makes it difficult to secure follow-on funding. Finally, the well-

established seed accelerators recruit nationally and even internationally. New seed accelerator programs are, at times, in direct competition with these larger, more well-established, programs.

While the seed accelerator model is younger than the business incubation model, there has been significant learning in the industry. Successful programs leverage their early successes to attract new companies. Another factor that attracts companies with the potential for success is that the most popular programs are often run by successful entrepreneurs. Finally, these successful entrepreneurs have personal networks that include many investors interested in providing follow-up funding to those companies in the program that have the most potential.

As noted earlier, there are many hybrid programs throughout the United States that use components from various models. TechGROWH Ohio, serving the Piketon region, is one such program that uses seed accelerator concepts. TechGROWTH delivers intensive operational assistance to early-stage technology companies and helps prepare them for investment. TechGROWTH also provides "growth funding" and pre-seed investments and works with a regional network of investors to provide follow-on funding. They are funded by the Ohio Third Frontier program and are an example of a successful public/private partnership (TechGROWTH Ohio 2014).

Proof of Concept Centers

Proof of concept centers are primarily used to promote the commercialization of university research. While typical technology transfer offices deal with the legal issues surrounding the intellectual property, proof of concept centers allow university inventors to assess the commercial potential of their research (Bradley, Hayter and Link 2013).

Typical proof of concept centers offer seed funding, business advisory services and market research. The funding is generally used to develop early-stage products and prototypes that utilize the protected research. These products and prototypes are used to leverage additional funding from outside investors, such as angel investors. An example of a proof of concept center is the Deshpande Center for Technological Innovation located at MIT. The center offers grant awards to MIT researchers and provides the following services (MIT Deshpande Center n.d.):

- Education on the innovation process
- Coaching on commercialization.
- Mentoring and guidance from respected investors

Much of the early-stage product development is done in existing university labs. However, some programs use university-affiliated business incubators and/or rapid prototyping labs to create these products.

While many universities are interested in proof of concept centers, finding programs that report their success metrics is difficult. It is also difficult to locate proof of concept centers that are not directly affiliated with research institutions. Without this affiliation it could be hard to

Entrepreneurial Activity in the Piketon Region

The Piketon, Ohio region, for the purpose of this report, includes the counties of Pike, Scioto, Adams, Jackson and Ross. All of the program types discussed earlier in this report (business incubators, venture accelerators, seed accelerators and proof of concept centers) need sufficient deal flow to sustain their operations. This section will first examine the types of businesses currently housed in the region's existing business incubation program. The entrepreneur support programs currently offered in the region are also discussed. This section will then review the number of business licenses issued in the last 10 years in each of the region's five counties. Details about the type and size of businesses started are included. Further, changes in the size of the population will be considered. Finally, this section will describe a major asset of the region, which is its central geographic location and access to significant transportation infrastructure. Getting products and services in and out of the region is of prime importance to spur economic growth.

The Ohio State University Endeavor Center

The Piketon, Ohio region has a business incubation program. The Ohio State University Endeavor Center is located at 1862 Shyville Road Piketon, Ohio – just a few miles from the Portsmouth Gaseous Diffusion Plant (PORTS) site. The Endeavor Center is housed in a 26,000 square foot building (The Ohio State University College of Food, Agriculture and Environmental Sciences, n.d.). The program provides flexible lease space, management guidance, networking, and shared services to entrepreneurs in south central Ohio. Many of the services offered to businesses housed in the Endeavor Center are offered by the Small Business Development Center (SBDC) that is collocated there. The SBDC provides business consulting and "workshops on money, management, and marketing topics for businesses from one employee to 500 employees (The Ohio State University, 2014)."

Unlike the typical business incubation program, the Endeavor Center currently provides a significant amount of office space to long-established companies. The table below shows the current (as of December 2013) companies located at the Endeavor Center:

Table One: OSU South Centers' Endeavor Center Occupants

	Company Name	Contact Person	Phone	Suite
AECOM	AECOM richard.tringale@aecom.com	Richard Tringale	(740) 289-2071 x340 **Cell:** 865-604-4059	226
CRC Technologies	CRC Technologies Info	Basil Human	865-607-9707	220
HukariAscendent	Hukari Ascendent julie@hukari.com	Julie Seddelmeyer	(740) 289-5232 **Toll Free:** 866-487-7628	224
inSolves	InSolves	Frank Barbarits	(740) 289-3282 **Fax:** 740-289-3015	173
Pro2Serve	Pro2Serve	Rose O'Neill	740-289-3118	215
URS	URS Corporation sheldon.stahl@urs-ps.com	Sheldon M. Stahl	(740) 289-2926 **Alt. Phone:** 509-205-7233	205

Source: http://southcenters.osu.edu/endeavor-center/endeavor-center-directory

AECOM is a 20-plus year old publicly traded company (AECOM n.d.). CRC Technologies is a small business, but is over 20 years old (CRC Technologies n.d.). Hukari Ascendent was formed in 1999 and is headquartered in Colorado (Hukari Ascendent n.d.). Pro2Serve is a 26 year-old company headquartered in Oak Ridge, Tennessee (Pro2Serve n.d.). URS Corporation is a publically traded company established in 1951 and employs more than 50,000 people worldwide (URS n.d.). InSolves was started in 1993 by Frank Barbarits. Mr. Barbarits was an instrument engineer at the PORTS facility. InSolves moved to the Endeavor Center in 2005 and is currently run by Steve Barbarits, the son of Frank Barbarits. InSolves has grown to employ 105. All of their employees are employed in the Piketon region. InSolves is the type of company one typically expects to find in a business incubation program.

While the Endeavor Center does not fit the typical definition of a business incubation program, they are a hub of entrepreneurial support that does provide significant benefit to the region. Technical assistance programs housed, or affiliated with, the Endeavor Center includes a Small Business Development Center (SBDC), a Manufacturing and Technology Small Business Development Center (MTSBDC), an International Trade Assistance Center (ITAC), a Manufacturing Extension Partnership and the State of Ohio Third Frontier Entrepreneurial Signature Program. In 2013, the Endeavor Center also hosted over 100 business workshops, training events and planning sessions to support small businesses. These events attracted over 1,500 participants (The Ohio State University 2014).

Regional Entrepreneur Support Programs

As noted above, there are numerous programs to support new business development in the region. Below is a brief description for most of these programs, but this is certainly not a comprehensive list. In discussions with stakeholders at the PORTS facility, it was noted that most of the people working in each of these programs is aware of, and coordinates efforts with, people working in the other programs. However, it is generally agreed in the economic development community that this coordination requires constant care and nearly every region could improve how organizations work together.

Small Business Development Centers (SBDC) provide a wide array of technical assistance to entrepreneurs and existing small businesses. SBDCs are the U.S. Small Business Administration's (SBA) largest matching grant funded program. The program provides no cost one-on-one business counseling as well as low-cost training on topics related to the formation and growth of new businesses. Typical services include help in developing business plans, finance and lending package assistance, information on exporting/importing and help with market research (The U.S. Small Business Administration n.d.).

Manufacturing and Technology Small Business Development Centers (MTSBDC) are programs similar to SBDCs but with a specific focus on manufacturing and technology businesses. One-on-one business consulting services are offered for free. Other services, including training, market research assistance, project development and production are offered at low or no cost. Typical areas of assistance include information on intellectual property protection, help with business processes, discussion of commercialization strategies, marketing assistance and information on lean manufacturing (Ohio Development Services Agency n.d.).

International Trade Assistance Centers (ITAC) assist small and startup businesses with product and services exporting to markets outside the U.S. Services include culture and language assistance, education on export compliance, proper export documentation, export financing, foreign market research and trade mission preparation (Ohio Development Services Agency n.d.).

Manufacturing Extension Partnerships (MEP) is a program of the U.S. Department of Commerce and offer resources to help manufacturers grow and be more competitive in the global market. Programs are particularly focused on innovation in manufacturing. MEPs attempt to leverage innovation, developed through research at federal labs, educational institutions and corporations, to help U.S. manufacturers compete more effectively. Metrics of success for these programs are achievement of new sales, higher tax receipts and new sustainable jobs. MEPs are public/private partnerships (NIST n.d.).

The Third Frontier Entrepreneurial Signature Program (ESP) is a program of the Ohio Development Services Agency. The goal of the program is to increase the commercialization of technology in the state through entrepreneurial ventures (Ohio Development Services Agency

n.d.). There are six regional ESPs in Ohio and the Piketon region is served by TechGROWTH Ohio (www.techgrowthohio.com). ESPs integrate deal flow, support and capital to spur technology commercialization.

Business Starts and Population Changes

Business starts analyzed over time can give a good indication of the existing entrepreneurial activity of a region. The number, and quality, of jobs created by these businesses are also important to assess. Businesses that create a significant number of good jobs amplify the positive economic impact of this new business activity. Below is an analysis, over 10 years, for new business starts for the State of Ohio and the counties included in the Piketon, Ohio region. This information was obtained from the website youreconomy.org (YE). This website was developed by the Edward Lowe Foundation. The primary source of data for youreconomy.org comes from the National Establishment Time Series (NETS) created by Walls & Associates (YE Your Economy n.d.).

The number of business starts in a region can be dramatically affected by significant population growth. It is important to not only look at historic data regarding business starts, but to look for upward shifts in population that might affect these numbers in the future. Therefore, each section below also includes information on current population and how that population in the state and respective counties has changed over time.

State of Ohio

The population of the State of Ohio grew by 0.16% from 11,353,140 in 2000 to 11,536,504 in 2010. For comparison, the population of the United States grew by 0.93% during the same period (U.S. Census Bureau 2011). There were 29,165 new businesses started in the State of Ohio from 2003 through 2012. New businesses are defined as establishments with a new DUNS number (a unique nine digit number assigned to individual business establishments by Dun & Bradstreet). This is an average rate per year of 8.6%. Over forty-three percent of the startups only employed one person. Over fifty percent of the businesses started employed between two and nine employees. The State of Ohio lost over 600 businesses that employed more than 10 employees during the 10 year period.

Table Two: State of Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	37790	66955	52372	100%	29165	8.6%
Self-Employed (1)	18073	27242	22658	43.3%	9169	5.6%
Stage 1 (2-9)	18192	38823	28508	54.4%	20631	12.6%
Stage 2 (10-99)	1483	872	1178	2.2%	-611	-4.6%
Stage 3 (100-499)	36	12	24	0.0%	-24	-7.4%
Stage 4 (500+)	6	6	6	0.0%	0	0.0%

Adams County

According to U.S. census data, the population of the Adams County grew by .44% between the years of 2000 to 2010. In 2010 the population of the county was 28,550. There were 53 new businesses started in Adams County from 2003 through 2012. This is an average rate per year of 7.4%. Over half (53.1%) of the new businesses started during the 10 year period only had one employee and only one new company employed 10 or more people. There were no new businesses started in Adams County during this time that employed more than 100 people.

Table Three: Adams County, Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	80	133	106	100%	53	7.4%
Self-Employed (1)	39	74	56	53.1%	35	10.0%
Stage 1 (2-9)	39	56	48	44.6%	17	4.8%
Stage 2 (10-99)	2	3	2	2.3%	1	5.6%
Stage 3 (100-499)	0	0	0	0.0%	0	0.0%
Stage 4 (500+)	0	0	0	0.0%	0	0.0%

Jackson County

According to U.S. census data, the population of the Jackson County grew by .18% between the years of 2000 to 2010. In 2010 the population of the county was 33,225. There were 32 new businesses started in Jackson County from 2003 through 2012. This is an average rate per year of 4.2%. Over forty percent of the new businesses started during the 10 year period only had one employee. Over fifty percent employed less than ten people. There were no new businesses started in Jackson County during this time that employed 10 or more people.

Table Four: Jackson County, Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	84	116	100	100%	32	4.2%
Self-Employed (1)	33	51	42	42%	18	6.1%
Stage 1 (2-9)	49	64	56	56.5%	15	3.4%
Stage 2 (10-99)	2	1	2	1.5%	-1	-5.6%
Stage 3 (100-499)	0	0	0	0.0%	0	0.0%
Stage 4 (500+)	0	0	0	0.0%	0	0.0%

Pike County

According to U.S. census data, the population of the Pike County grew by .36% between the years of 2000 to 2010. In 2010 the population of the county was 28,709. There were 50 new

businesses started in Pike County from 2003 through 2012. This is an average rate per year of 7.5%. Over forty percent of the new businesses started during the 10 year period only had one employee. Over fifty percent employed less than ten people. There were no new businesses started in Pike County during this time that employed 10 or more people.

Table Five: Pike County, Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	74	124	99	100%	50	7.5%
Self-Employed (1)	31	52	42	41.9%	21	7.5%
Stage 1 (2-9)	41	72	56	57.1%	31	8.4%
Stage 2 (10-99)	2	0	1	1.0%	-2	-11.1%
Stage 3 (100-499)	0	0	0	0.0%	0	0.0%
Stage 4 (500+)	0	0	0	0.0%	0	0.0%

Ross County

According to U.S. census data, the population of the Ross County grew by .63% between the years of 2000 to 2010. In 2010 the population of the county was 78,064. There were 127 new businesses started in Ross County from 2003 through 2012. This is an average rate per year of 6.7%. Over forty-five percent of the new businesses started during the 10 year period had only one employee. Over fifty percent employed less than ten people. There were only five new businesses started in Ross County during this time that employed 10 or more people. There were no new businesses that employed 100 or more employees.

Table Six: Ross County, Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	210	337	274	100%	127	6.7%
Self-Employed (1)	111	142	126	46.3%	31	3.1%
Stage 1 (2-9)	91	192	142	51.7%	101	12.3%
Stage 2 (10-99)	7	3	5	1.8%	-4	-6.3%
Stage 3 (100-499)	1	0	0	0.2%	-1	-11.1%
Stage 4 (500+)	0	0	0	0.0%	0	0.0%

Scioto County

According to U.S. census data, the population of the Scioto County grew by only .04% between the years of 2000 to 2010. In 2010 the population of the county was 79,499. There were 100 new businesses started in Scioto County from 2003 through 2012. This is an average rate per year of 5.3%. Over forty percent of the new businesses started during the 10 year period had only one employee. Over fifty-five percent employed less than ten people. There were only eight new

businesses started in Scioto County during this time that employed 10 or more people. There were no new businesses that employed 100 or more employees.

Table Seven: Scioto County, Ohio

Establishments	2003	2012	Period Avg.	% Total	Change	YE Indicator
TOTAL	210	310	260	100%	100	5.3%
Self-Employed (1)	83	131	107	41.2%	48	6.4%
Stage 1 (2-9)	116	172	144	55.4%	56	5.4%
Stage 2 (10-99)	10	7	8	3.3%	-3	-3.3%
Stage 3 (100-499)	1	0	0	0.2%	-1	-11.1%
Stage 4 (500+)	0	0	0	0.0%	0	0.0%

Population and Startup Company Assessment of the Region

All of the counties in the region being analyzed had positive population growth over the period 2000 to 2010. Only Scioto County lagged behind the State of Ohio's percentage population growth during the same period. All of the counties in the region had new business start averages from 2003 to 2012 that lagged behind the State of Ohio average of 8.6%. Furthermore, the large majority of startups in the region during this time only employed one person.

The low population density of the region, slow population growth and relatively low number of new business starts will make it difficult to sustain additional space-based business development resources. Space-based resources require significant deal flow to create enough revenue to cover the overhead created by the physical space. Furthermore, the region already has The Endeavor Center. It would likely be more cost effective to develop programs that use this existing space rather than create a new space-based business development resource on, or near, the former Portsmouth Gaseous Diffusion Plant.

Location and Transportation Infrastructure

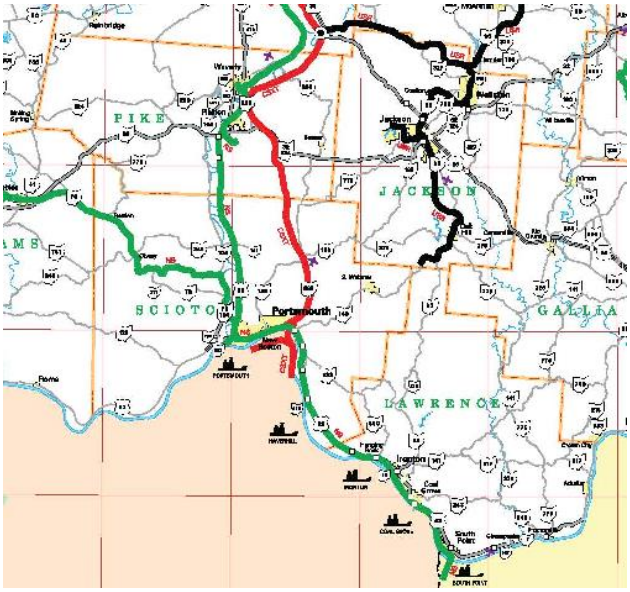
The former Portsmouth Gaseous Diffusion Plant (PORTS) is located within 500 miles of more than 50 percent of the consumers and industrial facilities in the United States (Pike County Chamber of Commerce n.d.). Additionally, there is significant transportation resources and infrastructure that link it to the rest of the country. While the area presents challenges for new company creation (low population density, small number of current startup businesses, etc.), those companies that do establish themselves in the region will have low overhead costs and easy access to markets outside of southern Ohio.

Road infrastructure in the region is well established. Route 32, a four-lane highway, runs east and west through the region and intersects another four-lane highway, Route 23, which runs north and south. These roads are lightly traveled and well maintained. Route 32 connects to I-71

in the east and I-71, I-74 and I-75 in the west. Route 23 is connected in the north to I-70 which runs from Maryland to Utah. To the south, Route 23 connects to the industrial port city of Portsmouth on the Ohio River. According to information from the Pike County Chamber of Commerce, terminals there "offer easy access to the river, which carries more than 200 million tons of cargo to the US and world markets each year (Pike County Chamber of Commerce n.d.)."

Source: State of Ohio Department of Transportation

There are two major airports located near the region. The Port Columbus International Airport is located about an hour north of the PORTS site and the Cincinnati/Northern Kentucky International Airport is located less than two hours west of the site. Both are accessible via four-lane highways. There are also freight rail lines that run through the region. Norfolk Southern and CSX both operate freight rail service in the region and connect ports along the Ohio River with communities throughout the US.



Source: State of Ohio Department of Transportation

Site-Specific Skills Inventory

Information provided by the U.S. Department of Energy indicates the PORTS cleanup efforts employed an average of 1,793 full-time equivalent employees during the first quarter of 2014. During the quarter there were 71 different job classifications represented at the plant. Over 25% of the employees were classified as a Decommissioning and Decontamination Worker. The next highest percentage of worker classification was Supervisor at only nine percent. Below is a chart showing the top ten job classification by number of employees. A complete list of employment by job classification is included in Annex A of this report.

Table Eight: Top Ten Positions by Number of Employees

Resource	Average FTEs for Q1 2014	Percent of Total Employment
D&D Worker*	456	25%
Supervisor	162	9%
Radiation Tech	114	6%
Engineer #1	84	5%
Manager	78	4%
Project Support Specialist	50	3%
Laborer	47	3%
Maintenance Mechanic	47	3%
Engineer #2	47	3%
Electrician	44	2%

The listing provided does not specify the level of education and/or certification required for each position. However, it can be assumed with reasonable certainty that the following employees have completed post-secondary education. Furthermore analysis is needed to assess the complete number of employees with college education and/or certification.

Table Nine: Positions That Likely Require Post-Secondary Education

Resource	Average FTEs for Q1 2014	Percent of Total Employment
Radiation Tech	114	6%
Supervisor	162	9%
Engineer #3	84	5%
Engineer #4	47	3%
Chemist	29	2%
Legal Counsel	2	Less than 1%

Assessing the level of education is important when looking at potential deal flow for a space-based entrepreneur assistance program. The limited data provided suggests that a relatively small number of current employees at PORTS have obtained a bachelor's degree or above. According to the U.S. Census Bureau, over half of all business owners have at least a bachelor's degree (United States Census Bureau 2012). This is important because it is a disproportionately higher percentage than what is seen in the general population. About 30 percent of the adult population of the United States has at least a bachelor's degree (United States Census Bureau 2012).

Preliminary analysis of the job skills represented at the site suggests potential challenges in providing significant deal flow to support a business incubation, acceleration or proof of concept facility. However, more data needs to be collected. Specifically, information on the level of education, income (indication of access to credit), age and specific skills should be collected to help assess market potential for a new entrepreneur support facility, or to help assess the need for expansion of existing support resources. While age may not appear to be a significant data point, it is important to note that an increasing percentage of entrepreneurs are older than 45 (Ewing Marion Kauffman Foundation 2014).

Discussions with stakeholders at the plant suggest that there are a significant number of plant employees that have certifications and other types of training. While most of these employees will not likely start new companies or commercialize technology, they could be a significant source of skilled labor for entrepreneurs and business owners interested in expanding their companies. More research needs to be done to identify workers at the plant that have specialized skills, certifications and/or other types of training.

Site Specific Equipment and Materials Available

A general assessment of the former Portsmouth Gaseous Diffusion Plant (PORTS) site indicates a number of opportunities and challenges for housing an entrepreneur support facility like a business incubation program, an accelerator or proof of concept center. The site has significant infrastructure including buildings, roads and utilities. Also, there is equipment and materials that could be leveraged by new ventures. However, the location is problematic in that it is hidden from through traffic, has significant security requirements and some areas/equipment are still contaminated. Furthermore, the major focus on the site will be on cleanup activities for quite some time. Generally, business incubators, seed accelerators and proof of concept centers are open to the public and designed to promote the free exchange of ideas and information. The current security needs on the PORTS site during the cleanup phase may not allow for such an open environment.

Information provided by the U.S. Department of Energy details the buildings located on the site and highlights the processes the buildings were designed for (Department of Energy 2013). The report grouped the site's buildings into four general categories:

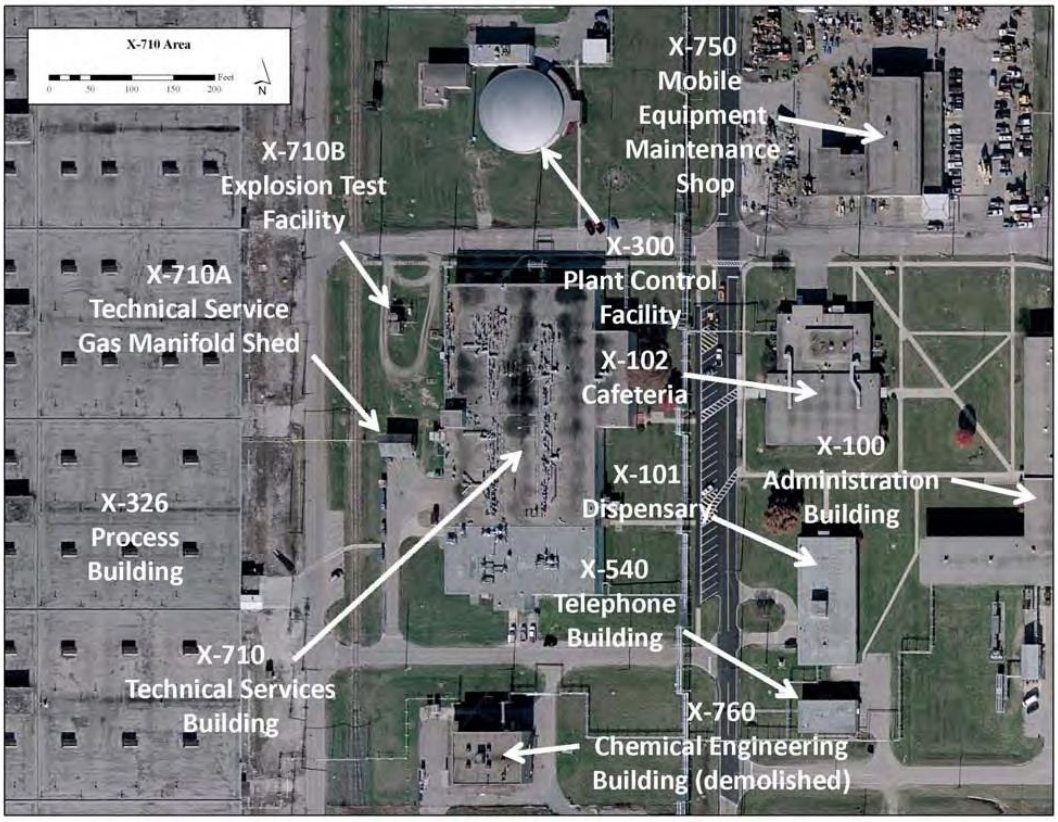
- Process Buildings and Tie Lines
- Feed, Sampling, and Transfer Facilities
- Primary Laboratory, Maintenance, and Equipment Cleaning Facilities
- Support Facilities and Systems.

It is unlikely that the process buildings and the feed, sampling and transfer facilities would provide significant value to new entrepreneurial ventures. These facilities were purpose built for the gaseous diffusion process and would be hard to adapt to other types of production. However, there might be materials that could be leveraged for these new businesses. It is much more likely that the labs, maintenance and support facilities would have space and equipment that could be used by new entrepreneurial ventures.

An example of a building and equipment that might be usable by a new venture is the X-710 Technical Service Building. An excerpt from Annex A from the report "Revised Remedial Investigation and Feasibility Study Report for the Process Buildings and Comples Facilities Decontamination and Decommissioning Evaluation Project at the Portsmouth Gaseous Diffusion Plant, Piketon, Ohio, and Responses to Ohio Environmental Protection Agency March 5, 2013; Number PPPO-03-2086077-13, Annex A" provided by the Department of Energy describes the building:

> *A.4.3.1 X-710 Technical Service Building*
>
> *The X-710 Technical Service Building (Figure A.31) is a two-story, 139,000-sq. ft. building in two separate parts. It is located east of the X-326 Process Building and south of the X-300 PCF (Figure A.30). The northern portion, built in 1953, has an area of 109,000 sq. ft. It is made of reinforced concrete and concrete blocks. Built in 1975, the southern portion has 30,000 sq. ft. of floor space and is a steel-framed addition with steel siding.*
>
> *The X-710 Technical Service Building contains laboratories (Figure A.32) and operations that provide technical, production, and development support for PORTS. Operations have included material sampling and testing, chemical analysis and laboratory services, information services and management (technical library and computer systems and procedures), instrumentation development and testing, cascade testing and evaluation, development testing/evaluation/fabrication, offices for technical services management, equipment repair and fabrication shops, a storeroom, and the mechanical equipment room. The X-710 building currently supports cell deposit removal*

and technetium-99 cleanup projects, conducts environmental sample analysis, and is home base for the NDA Applied Nuclear Technology Lab and Industrial Hygiene Health Physics support group. The Mass Spectrometer Lab still functions.



Source: U.S. Department of Energy

Discussions with stakeholders at the plant suggest that such labs and equipment could be transitioned to a standalone new company. This company could then market its services to the PORTS facility while they develop new contracts outside of the community. While it is clear that this plan would face many challenges, it is important to consider all possibilities when discussing how to leverage the assets at the plant to create new economic opportunities in the Piketon region.

Other types of plant activities that might be spun out as separate businesses include physical and cyber security; industrial cleaning and maintenance; machining and fabrication; personal protection equipment training and maintenance. These were discussed during stakeholder meetings; however, more research needs to be done to determine whether existing plant buildings and/or equipment could be leveraged in these ventures. A list of buildings on the former Portsmouth Gaseous Diffusion Plant site is included in Annex B.

Recommendations

It is not recommended that a new space-based entrepreneur support facility (business incubator, seed accelerator, proof of concept center, etc.) be created on the former Portsmouth Gaseous Diffusion Plant (PORTS) site. However, it is recommended that further research be undertaken to clearly identify employee skill sets and site resources (infrastructure and materials) that can be used in the creation of new ventures. It is recommended that funding be allocated to hire at least one full-time person to facilitate this research. This person would also coordinate with the existing business incubation program and various programs in the region that already exist to support technology commercialization and entrepreneurship development. This person would also facilitate the creation of "packages" of PORTS site people and capital (equipment, infrastructure) that can be used to create viable new business opportunities. These packages could then be marketed locally, regionally and nationally to investors and entrepreneurs.

It is unlikely that the Piketon region could adequately support a new business incubation facility at this point in time. There has not been a significant increase in population in the region over the last 10 years and the number of business starts in the region lags behind many other counties in the state. A new facility would likely cannibalize support for existing programs in the region including those offered through the Endeavor Center which was highlighted earlier in this report. It appears the Endeavor Center has excess capacity that is not being utilized. This would indicate that demand from entrepreneurial ventures for space and services do not exceed the current capacity. More work needs to be done to secure adequate deal flow for these services. This includes, as recommended, better coordination to leverage PORTS workforce and infrastructure as well as continued marketing of existing programs.

Seed or venture acceleration programs would not require additional space and could be incorporated into the services provided by the Endeavor Center. The Endeavor Center already works with the state's Third Frontier Entrepreneurial Signature Program (ESP) to provide networks and access to capital to new technology companies. Providing additional support to these existing programs would be a more cost effective way to create more new business opportunities in the region. Much like seed and venture acceleration activities, a proof of concept center could be created within the Endeavor Center. However, this is not recommended. All known proof of concept centers exists within research universities or research labs. While there may be opportunities to utilize staff, buildings and equipment on the PORTS site for research, this research activity would need to be robust before considering the funding of a proof of concept center.

The primary work being conducted at the PORTS facility is decontamination and decommissioning. While significant work has already been completed to clean up the site, there are still large areas of the site that are not ready for unescorted public access. The onsite hazards and security needs of the cleanup effort do not align with the open environment typically needed at entrepreneurial support facilities. Furthermore, the Endeavor Center is currently located very

near the PORTS site and, if needed, expanded support for entrepreneurship and technology commercialization can be housed at this facility. This offers a much lower cost option than developing a new facility on the PORTS site.

While it is not recommended that a new entrepreneurial support facility be created on the PORTS site, there are significant resources available at the facility that can be leveraged to help create new businesses in the region. There is skilled labor currently employed at the plant as well as equipment and materials that will likely leave the region when the decontamination and decommission work is completed. To keep this from happening, resources should be allocated to hire a full-time position to catalog the resources currently onsite and to coordinate activities to make sure these resources be used effectively to spur new business creation in the Piketon region [NOTE: the author of this report specifically excludes himself from consideration for the recommended position]. This proposed new staff member duties would include facilitating "blue sky" discussions with stakeholders at the plant to identify potential business opportunities; marketing of packages of people and capital (buildings, equipment, etc.) currently at the PORTS facility to potential entrepreneurs, investors and others; coordination with the many organizations working in the region to support economic development to make sure they are aware of, and leveraging, the plant's resources. These organizations include the Endeavor Center, local and regional economic development organizations, chambers of commerce, Small Business Development Center, Manufacturing and Technology Small Business Development Center, International Trade Assistance Center, Manufacturing Extensions Partnership and TechGROWTH Ohio which represents the Ohio Entrepreneurial Signature Program for the region.

Annex A was provided by the U.S. Department of Energy and summarizes the current staff at the PORTS facility and their respective titles. However, this is insufficient data to fully assess how best to leverage this asset to spur new business creation. It is recommended that further research be conducted to more fully understand the skills and capabilities of the employees at the site. The specific skills, education, certification and professional interests of each employee needs to be cataloged. The initial work to create this skills inventory would likely be more than the new hire could manage. This work could be contracted for and coordinated by the new hire. Once this inventory is created it can be used to market the Piketon region to entrepreneurs and investors. Partners in this effort include the many organizations listed above that support economic development through entrepreneurship in the region.

Annex B of this report summarizes the buildings located at the PORTS facility and their intended function. The report mentions some of the equipment located in each building as well as environmental hazards that might be present. It is recommended that further research be conducted to more fully understand how these buildings and equipment can be utilized, or repurposed, to support future business activity, both on site and off. It is likely that much of the information needed is included in existing reports. However, this information needs to be analyzed in the context of creating new business opportunities. This work could be contracted,

but would require cooperation and coordination with the staff that is decontaminating and decommissioning the site.

It is suggested that research into the skills of the plant's employees, buildings, materials and infrastructure be initially focused on the following areas identified in discussions with stakeholders at the site:

- Lab Analysis and Testing
- Physical and Cyber-security
- Personal Protection Equipment
- Machining and Fabrication

These areas were identified because there is staff at the site that are trained and, in some cases, certified with unique skills that have significant value in the market place. Furthermore, each of these areas at the PORTS site may have significant infrastructure and/or equipment that could support a new venture focused on these markets.

About the Author

Tracy Kitts is currently the Chief Administrative Officer at the International Economic Development Council (IEDC). IEDC is the world's largest economic development membership association serving over 4,400 members worldwide. IEDC provides services to its members to help them build strong, sustainable communities through innovative economic development strategies and the use of proper tools and techniques. Prior to joining IEDC, Tracy was the Chief Operating Officer at the National Business Incubation Association (NBIA) for 14 years. NBIA is the largest business incubation association in the world and serves members from over 50 nations.

Tracy is a trained meeting facilitator and has been invited to speak on topics related to business incubation and entrepreneur support at numerous events and conferences worldwide. He has helped communities develop entrepreneur support programs in the United States, Canada, Mexico, Chile, Japan, Morocco and various other countries. Tracy has also contributed work to various studies of the incubation industry.

Annex A: PORTS Jobs as of December 2013

Source: U.S. Department of Energy

D/D Contractor Jobs						
Resource	**Results**	**Oct-2013**	**Nov-2013**	**Dec-2013**	**Average FTEs Q1FY2014**	**% of Total**
Decommissioning and Decontamination Worker	FTE	489.58	461.00	417.57	456	25%
Supervisor	FTE	167.22	171.26	148.86	162	9%
Rad Tech	FTE	110.99	107.86	121.70	114	6%
Engineer 1	FTE	85.72	85.59	82.12	84	5%
Manager 1	FTE	82.85	83.47	68.53	78	4%
Project Support Specialist	FTE	46.40	52.55	50.11	50	3%
Laborer	FTE	48.50	50.16	42.43	47	3%
Maintenance Mechanic	FTE	51.86	50.49	38.52	47	3%
Engineer 2	FTE	48.54	50.18	41.07	47	3%
Electrician	FTE	46.59	44.54	41.62	44	2%
Escort- Sub	FTE	55.88	35.52	24.94	39	2%
Manager 2	FTE	34.89	37.02	37.31	36	2%
Clerk	FTE	35.22	37.65	31.10	35	2%
Fire Protection EMT	FTE	35.43	33.62	31.67	34	2%
Chemist	FTE	32.90	30.15	23.09	29	2%
Work Control Planner	FTE	28.63	32.27	25.50	29	2%
Instrument Mechanic	FTE	30.57	29.58	24.46	28	2%
Supervisor -Sub	FTE	25.72	26.26	25.15	26	1%
HP-IH Tech	FTE	21.33	26.51	27.93	25	1%
Waste Management Specialist	FTE	24.88	23.41	19.83	23	1%
Project Controls Specialist- Sub	FTE	24.68	20.95	24.76	23	1%
Lab Technician	FTE	23.54	23.22	19.06	22	1%
Administrative Assistant	FTE	22.37	24.17	20.08	22	1%
Project Support Associate	FTE	20.98	22.54	19.74	21	1%

D/D Contractor Jobs						
Resource	**Results**	**Oct-2013**	**Nov-2013**	**Dec-2013**	**Average FTEs Q1FY2014**	**% of Total**
Project Support Tech-Sub	FTE	16.63	18.17	25.5	20	1%
NOA Technician	FTE	13.98	17.27	13.71	15	1%
HR/IR Specialist	FTE	11.06	14.97	13.14	13	1%
Radiological Control Technician	FTE	14.55	13.48	11.65	13	1%
WMTech	FTE	14.47	13.56	11.80	13	1%
HVAC Mechanic	FTE	12.08	12.27	10.74	12	1%
IT Specialist	FTE	11.01	14.35	10.71	12	1%
QA/QC Rep/Tech	FTE	12.21	11.64	9.84	11	1%
Account Analyst	FTE	11.22	12.44	8.33	11	1%
Environmental Science Tech Jr	FTE	12.00	11.81	9.33	11	1%
Training Specialist	FTE	11.01	10.49	9.08	10	1%
Safety Analyst	FTE	10.61	10.94	8.44	10	1%
NMC Specialist	FTE	8.89	8.91	7.51	8	0%
Contracts Administrator	FTE	6.97	9.87	8.25	8	0%
Buyer	FTE	6.46	9.02	8.23	8	0%
NDA Specialist Sr	FTE	7.37	8.51	9.27	8	0%
Communications Specialist	FTE	7.09	7.17	5.66	7	0%
Stores Material Handler	FTE	5.49	7.31	6.28	6	0%
QA Specialist Lead	FTE	4.84	6.87	5.37	6	0%
Nuclear Criticality Safety- Sub	FTE	5.27	5.06	7.90	6	0%
Environmental Science Tech Sr	FTE	5.33	5.32	4.46	5	0%
Buyer & Contract Specialist- Sub	FTE	4.64	5.20	5.43	5	0%
Security Representative	FTE	4.15	3.61	2.78	4	0%
Project Controls Specialist Principal	FTE	3.27	4.35	3.75	4	0%

D/D Contractor Jobs						
Resource	**Results**	**Oct-2013**	**Nov-2013**	**Dec-2013**	**Average FTEs Q1FY2014**	**% of Total**
Records Management Specialist	FTE	4.22	3.73	2.68	4	0%
Emergency Management Specialist	FTE	3.86	4.77	4.08	4	0%
Painter	FTE	3.64	2.96	2.56	3	0%
HP-IH Tech	FTE	3.35	2.85	2.32	3	0%
Operations Specialist	FTE	3.01	3.05	2.47	3	0%
Estimator	FTE	3.11	3.84	3.51	3	0%
Construction Coordinator- Sub	FTE	3.62	2.15	1.96	3	0%
Lubricator- Garage	FTE	2.38	2.12	1.91	2	0%
Industrial Hygienist	FTE	1.67	2.05	1.78	2	0%
Construction Coordinator	FTE	2.21	2.10	1.79	2	0%
Material Property Control Representative	FTE	1.28	2.02	1.71	2	0%
Legal Counsel	FTE	1.66	2.11	1.67	2	0%
Administrative Assistant Sr- Sub	FTE	2.04	2.28	2.11	2	0%
Contracts Administrator- Sub	FTE	3.14	1.90	2.07	2	0%
IT Specialist- Sub	FTE	2.20	1.99	2.49	2	0%
NMC Specialist Acct	FTE	1.01	0.80	0.80	1	0%
Project Controls Specialist	FTE	1.06	1.06	1.69	1	0%
NCS Officer	FTE	1.05	1.06	0.88	1	0%
CAD Operator/Drafter	FTE	1.03	0.99	0.85	1	0%
Clerk- Sub	FTE	0.78	0.02	1.22	1	0%
Communications Specialist - Sub	FTE	1.13	1.09	1.78	1	0%
Technical Writer	FTE	0.23	0.44	0.68	0	0%
IH Professional- Sub	FTE	1.23	0.09	0.00	0	0%
Grand Total		**1,864.7S**	**1,848.02**	**1,667.32**	**1,793**	**100%**

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS

Source: U.S. Department of Energy

NOTE: Many of the listed buildings in this table have already been slated to be decommissioned and removed. A further review of potentially available fuildings/structures is required, and this existing list should not be considered current.

Facility Number	Facility Name
PROCESS BUILDINGS AND TIE LINES	
X-232C1	Tie Line X-342 to X-330
X-232C2	Tie Line X-330 to X-326
X-232C3	Tie Line X-330 to X-333
X-232C4	Tie Line X-326 to X-770
X-232C5	Tie Line X-343 to X-333
X-326	Process Building & Instrumentation Tunnel
X-330	Process Building & Instrumentation Tunnel
X-333	Process Building & Instrumentation Tunnel
FEED, SAMPLING, AND TRANSFER FACILITIES	
X-342A	Feed Vaporization Building
X-342B	Fluorine Storage Building
X-342C	Waste HF Neutralization Pit (below-grade structures)
X-344A	UF6 Sampling Facility
X-344C	Hydrogen Fluoride Storage Building (foundations and piers)
X-344D	HF Neutralization Pit (Below Grade)
X-344E	Gas Ventilation Stack (Below Grade)
X-344F	Safety Building (below-grade structures)
PRIMARY LABORATORY, MAINTENANCE, AND EQUIPMENT CLEANING FACILITIES X-700 Complex	
X-700	Converter Shop & Cleaning Building
X-700A	Air Conditioning Equipment Building
X-700B	Sandblast Facility and Observation Booth
X-721	Radiation Instrument Calibration
E	X-700 “0000” Compressor Base Foundation

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
PRIMARY LABORATORY, MAINTENANCE, AND EQUIPMENT CLEANING FACILITIES X-705 Complex	
X-705	Decontamination Building
X-705D	Heat Booster Pump Building
X-705E	Oxide Conversion Area
X-710	**Technical Service Building X-710 Complex**
X-710A	Technical Service Gas Manifold Shed
X-710B	Explosion Test Facility
X-720	**Complex**
X-720	Maintenance & Stores Building
X-720A	Maintenance & Stores Gas Manifold Shed (below-grade structures)
X-720B	Radio Base Station
X-720C	Paint & Storage Building
SUPPORT FACILITIES AND SYSTEMS Administrative Facilities	
X-100	Office Building (slab and below-grade structures)
X-104A	Indoor Firing Range Building
X-104B	Protective Forces Office Trailer
X-104C	Protective Forces Shower/Locker Trailer
X-105	Electronic Maintenance Building (front apron/concrete pad)
X-106B	Old Fire Training Building (slab and below-grade water tank)
X-108A	South Portal and Shelter-Drive Gate
X-108B	North Portal and Shelter
X-108E	Construction Entrance Portal
X-108J	West Security Portal
X-108K	North Security Portal
X-108L	East Security Portal
X-111A	SNM Monitoring Portal
X-111B	SNM Monitoring Portal
X-300	Plant Control Facility
X-300A	Process Monitoring Building
X-300B	Plant Control Facility Carport
X-300C	Emergency Communications Antenna
X-344H	Security Portal

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-530 T1	Office Trailer
X-533H	Personnel Monitoring Station
X-533 T1	Trailer
X-533 T2	Trailer
X-533 T3	Trailer
X-533 T4	Trailer
X-540	Telephone Building
X-600D	Utilities Maintenance Field Office
X-633 T1	Trailer
X-633 T2	Trailer
X-633 T3	Trailer
X-744Y T1	Trailer
X-744Y T2	Trailer
X-744Y T3	Trailer
X-744Y T4	Trailer
X-744Y T5	Trailer
X-744Y T6	Trailer
X-744Y T8	Trailer
X-744Y T9	Trailer
X-750	Mobile Equipment Maintenance Shop (slab and below-grade structs.
X-751	GCEP Mobile Equipment Garage
X-760 T1	Trailer
X-760 T2	Trailer
X-1000	Administration Building
X-1000 T1	Training Trailer
X-1007	Fire Station
XT-800	GCEP Construction Office Pad
X-1107BV	Interplant Vehicle Portal
J	X-1000 Pavilion
Water Treatment, Storage, and Distribution Facilities	
X-230	Water Supply Line
X-230A	Sanitary and Fire Water Distribution System
X-230D	Softened Water Distribution System

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-230E	Plant Water System (make-up)
X-230F	Raw Water Supply Line
X-230G	RCW System
X-230H	Fire Water Distribution System
X-240A	RCW System (Cathodic Protection System)
X-605	Sanitary Water Control House
X-605A	Well Field
X-608	Raw Water Pump House
X-608A	Well Field
X-608B	Well Field
X-611	Water Treatment Plant (slab and below-grade structures)
X-611A	Old Lime Sludge Lagoon (structures)
X-611B	Lagoon (structures)
X-611B1	Lagoon Supernatant Pumping Station
X-611B2	Lagoon Supernatant Pumping Station
X-611B3	Lagoon Supernatant Pumping Station
X-611C	Filter Building (slab and below-grade structures)
X-611E	Clear Well & Chlorine Building (slab and below-grade structures)
X-612	Elevated Storage Tank (below-grade structures)
X-626-1	Recirculating Water Pump House (slab and below-grade structures) X-626-2 Cooling Tower (below-grade structures)
X-630-1	Recirculating Water Pump House (slab and below-grade structures) X-630-2A Cooling Tower (below-grade structures)
X-630-2B	Cooling Tower (below-grade structures)
X-630-3	Acid Handling Station (saddles and basin)
X-640-1	Fire Water Pump House (slab and below-grade structures)
X-640-2	Elevated Storage Tank (below-grade structures)
X-640-2A	Elevated Water Tank Auxiliary Building
X-680	Blowdown Sample and Treatment Building
X-701A	Lime House (below-grade structures)
X-701D	Water Deionization Facility (below-grade structures)
X-701E	Neutralization Building
X-701F	Effluent Monitoring Facility

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-701 T1	Trailer
X-2230T1	Recirculating Heating Water System (East of Valve Pits A and B)
Sewage Collection and Treatment Facilities	
X-230B	Sanitary Sewers
X-230C	Storm Sewers
X-614A	Sewage Pumping Station (slab and below-grade structures)
X-614B	Sewage Pumping Station (slab and below-grade structures)
X-614D	South Sewage Lift Station
X-614P	North East Sewage Lift Station
X-614Q	Sewage Booster Pump Station
X-615	Old Sewage Treatment Plant (foundations and piers)
X-616	Liquid Effluent Control Facility (foundations and piers)
X-6619	Sewage Treatment Plant
Electrical Distribution Systems and Facilities	
X-215A	Electrical Distribution to Process Buildings
X-215B	Electrical Distribution to Other Areas
X-215C	Exterior Lighting
X-215D	Electrical Power Tunnels
X-501	Substation
X-501A	Substation
X-502	Substation
X-515	330 kV Tie Line Between X-530 and X-533
X-530A	High Voltage Switchyard (grounding sys. and underground cables)
X-530B	Switch House (slab and below-grade structures)
X-530C	Test and Repair Building (below-grade structures)
X-530D	Oil House (slab and below-grade structures)
X-530E	Valve House (slab and below-grade structures)
X-530F	Valve House (slab and below-grade structures)
X-530G	GCEP Oil Pumping Station
X-640-1A	Substation (required for Fire Services)
C	Old Switchyard West of X-109A Pad (near X-740)
Miscellaneous Utilities	
X-232A	Nitrogen Distribution System

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-232B	Dry Air Distribution System
X-232D	Steam and Condensate System
X-232E	Freon Distribution System
X-232F	Fluorine Distribution System
X-232G	Support for Distribution Lines
X-670	Dry Air Plant
X-670A	Cooling Tower
X-675	Plant Nitrogen Station
X-2232E	Gas Pipeline
X-114A	Outdoor Firing Range
X-202	Roads
Infrastructure	
X-204-1	Railroad and Railroad Overpass (excluding DUF6 utilized track)
X-206A	North Main Parking Lot
X-206B	South Main Parking Lot
X-206E	Construction Parking Lot
X-206H	Pike Avenue Parking Lot
X-206J	South Office Parking Lot
X-208	Security Fence
X-208A	Boundary Fence
X-208B	SNM Security Fence
X-210	Sidewalks
X-220A	Instrumentation Tunnels
X-600	Steam Plant (slab and below-grade structures)
X-600A	Coal Yard (structures)
X-690	Steam Plant
X-748	Truck Scale
B	Pad in Field East of X-109A (near X-740)
H	Old Firing Range Shed
I	Peter Kiewit Powder Magazine
Storage and Warehouse Facilities and Yards	
X-345	SNM Storage Building
X-741	Oil Drum Storage Facility

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-742	Gas Cylinder Storage Facility
X-744K	Warehouse-K
X-744N	Warehouse N Non-UEA
X-744P	Warehouse P Non-UEA
X-744Q	Warehouse Q Non-UEA
X-744V	Surplus and Salvage Clean Storage Area
X-744Y	Waste Storage Area
X-745B	Toll Enrichment Gas Yard
X-745D	Cylinder Storage Yard
X-745F	North Process Gas Stockpile Yard
X-745G-2	Cylinder Storage Yard
X-746	Material Receiving and Inspection
X-747	Clean Scrap Yard
X-747A	Material Storage Yard (below-grade structures)
X-747B	Material Storage Yard Pads and Equipment
X-747C	Material Storage Yard Pads and Equipment
X-747D	Material Storage Yard Pads and Equipment
X-747E	Material Storage Yard Pad
X-747G	Precious Metal Scrap Yard (below-grade structures)
X-747H	NW Contaminated Scrap Yard (below-grade structures)
X-747H1	Loading Pad
X-747J	Decontamination Storage Yard
XT-847	Warehouse
Environmental Monitoring and Treatment Facilities	
X-120	Old Weather Station (footers)
X-120H	Weather Station
X-230A3	Ambient Air Monitoring Station
X-230A6	Ambient Air Monitoring Station
X-230A8	Ambient Air Monitoring Station
X-230A9	Ambient Air Monitoring Station
X-230A10	Ambient Air Monitoring Station
X-230A12	Ambient Air Monitoring Station
X-230A15	Ambient Air Monitoring Station

Annex B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-230A23	Ambient Air Monitoring Station
X-230A24	Ambient Air Monitoring Station
X-230A28	Ambient Air Monitoring Station
X-230A29	Ambient Air Monitoring Station
X-230A36	Ambient Air Monitoring Station
X-230A37	Ambient Air Monitoring Station
X-230A40	Ambient Air Monitoring Station
X-230A41	Ambient Air Monitoring Station
X-230J-1	Monitoring Station
X-230J1	East Environmental Sampling Building (slab)
X-230J2	South Environmental Sample Station
X-230J3	West Environmental Sampling Building for Intermittent Containment Basin
X-230J4	Environmental Air Sampling Station
X-230J5	West Holding Pond Oil Separation Station
X-230J6	Northeast Holding Pond Monitoring Facility and Secondary Oil Collection Building
X-230J7	East Monitor Facility (East Holding Pond Oil Separation Building) X-
230J8	Environmental Storage Building (slab)
X-230M	Clean Test Site
X-235	South Groundwater Collection System
X-237	Little Beaver Groundwater Collection System
X-617	South Holding Pond pH Control Facility
X-622	South Groundwater Treatment Facility
X-623	North Groundwater Treatment Building
X-624	Little Beaver Groundwater Treatment Facility
X-625	Groundwater Passive Treatment Facility
X-627	Groundwater Pump & Treatment Facility
Associated Nonstructural Support Systems	
X-220B1	Process Instrument Lines
X-220B2	Carrier Communication Systems
X-220B3	Water Supply Telemetering Lines
X-220C	Superior American Alarm System

AnnexAttachment B: Table A.1. Groupings for Facilities Included within the Scope of the Process Buildings and Complex Facilities D&D Evaluation Project at PORTS (cont.)

Facility Number	Facility Name
X-220D1	General Telephone System
X-220D2	Process Telephone System
X-220D3	Emergency Telephone System
X-220E1	Evacuation PA System
X-220E2	Process PA System
X-220E3	Power Public Address System
X-220F	Plant Radio System
X-220G	Pneumatic Dispatch System
X-220H	McCalloh Alarm System
X-220J	Radiation Alarm System
X-220K	Cascade Automatic Data Processing System
X-220L	Classified Computer System
X-220N	Security Alarm and Surveillance System
X-220P	MSR System
SUPPORT FACILITIES AND SYSTEMS Associated Nonstructural Support Systems	
X-220R	Public Warning Siren System
X-220S	Power Operations SCADA System

GCEP = Gas Centrifuge Enrichment Plant
MSR = maintenance service request
PA = public address
RCW = recirculating cooling water
SCADA = Supervisory Control and Data Acquisition
SNM = special nuclear material
UEA = uranium enrichment area

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APPENDIX TWO: MS™ PowerPoint Excerpts

Original MS™ PowerPoint description: 'what do we do'

Science Alliance 'game' deck

Onsite entrepreneur deck

Pitch competition deck

Ohio University
Voinovich School of Leadership and Public Affairs

Business Services

Scope

SCOPE OF WORK

- Proof of Concept and Prototype Development Center: design
- Individually-targeted assistance
- Regional and student pitch competitions
- Professional instruction and panel discussions
- Innovation-gathering and opportunity matching
- Closing conference: pitch awards and entrepreneurial recognition

What We Offer

No-Cost Professional Advice

- What problem/solution?
- Who's competing?
- 5 year/10 year plan?
- Family Business/Fast Growth?
- Business Plan?
- Sales and Marketing?
- Financials?
- Capital Access?

Competitive Grants

- Protecting Intellectual Property
- Prototype Development
- Executive-in-Residence
- Product Launch
- Beta Customers
- Sales & Marketing

Competitive Pre-Seed Funding

- Planning for Capital Investment
- Presenting to Win Investment
- Two Funds
- Due Diligence
- "Tranches"
- Access to Additional Capital
- Fund I Vested, Fund II Started

Ohio University
Voinovich School of Leadership and Public Affairs

Business Services

Made possible through a grant from the U.S. Department of Energy Office of Environmental Management Portsmouth/Paducah Project Office

STARTING A BUSINESS

Agenda

- What kind of locals have done this?
- Starting up a business: overview
- Startup trajectory and funding needs
- The kinds of help available
- What funders need from the startup founder
- How to get funders what they need

Some Regional Startups

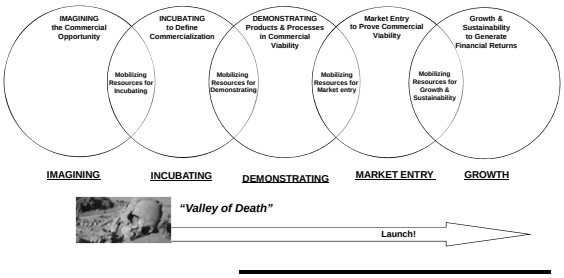
Quick Facts For Start-Up

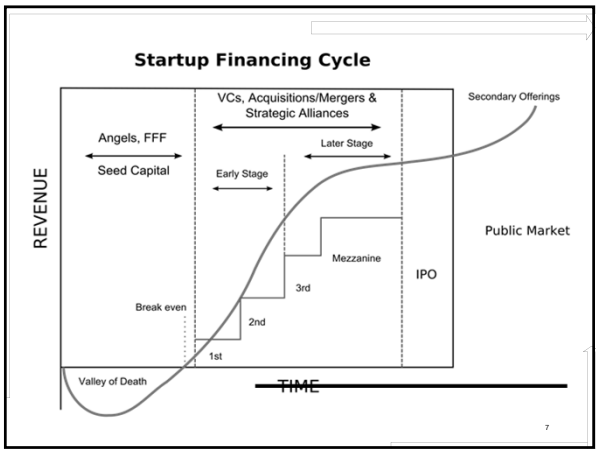
- U.S.: 28 million small businesses
- Small businesses: >50% 20th Century innovations (zipper, the helicopter, personal computer)
- >50% small businesses home-based
- 60 - 80% new jobs in small businesses
- 70% of small businesses: 1-person owner/operator
- Longevity: Most live 2 years; 50% live >5 years

? ? Startup ? ?

Pros	Cons
• Independent – Own boss	• Every customer is your boss
• Reap all benefits of effort	• Hard work
• Exciting	• Uncertainty
• Can impact community	• Emotional roller coaster
• Diverse responsibilities	• Problems are your own
• Flexible schedule	• Wear multiple hats
• Unlimited income potential	• No steady paycheck
• Control	• No paid holidays/sick time
• Never down-sized or laid off	• No benefits
• Work around your home life	• 24/7; difficult to balance

Business Trajectory

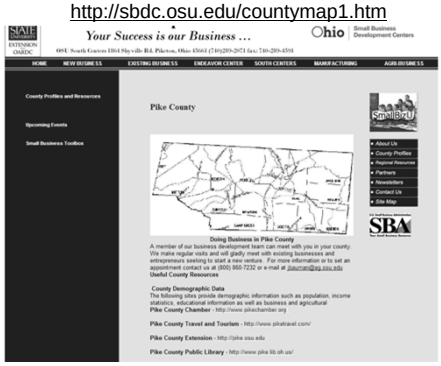




Help for Startups

- SBDCs (local to PORTS: http://sbdc.osu.edu/)
- Chambers of Commerce
- Regional Economic Development Entities
  - OVRDC, EDASO
- Banks
  - SBA loans for small businesses
- Revolving loan funds (many CIC/ec dev offices)
  - Require financials, cash flow, collateral
- TechGROWTH Ohio
  - regional tech startups only

Sample Online Information via Pike SBDC
http://sbdc.osu.edu/countymap1.htm



Kinds of Services Offered

No-Cost Professional Advice

- What problem/solution?
- Who's competing?
- 5 year/10 year plan?
- Family Business/Fast Growth?
- Business Plan?
- Sales and Marketing?
- Financials?
- Capital Access?

Funding Resources

- Micro Loans
- Bank Loans
- State Loan programs
- Federal Loan programs
- Tech start-up funding

Ninety Percent

Bootstrap.

Bootstrapping

- Technical (business science) definition:
  Starting and growing a company without significant formal outside financial investment.
- Real Life (business art) definition:
  The art of overcoming business challenges with creativity and perseverance (instead of money).

Bootstrapping = Alternative Capital

- Personal savings
- Friends-and-family funding
- Joint ventures
- Licensing
- Franchising
- Customer Capital
- Federal research grants

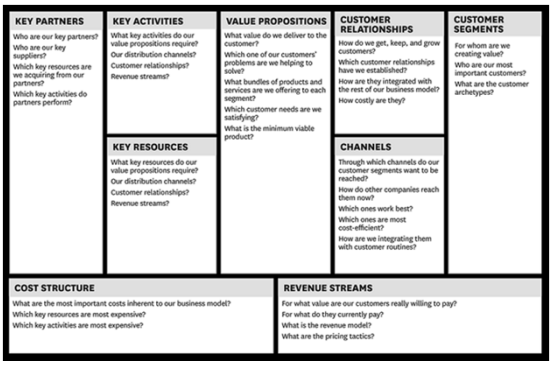
If You're Asking For $$....

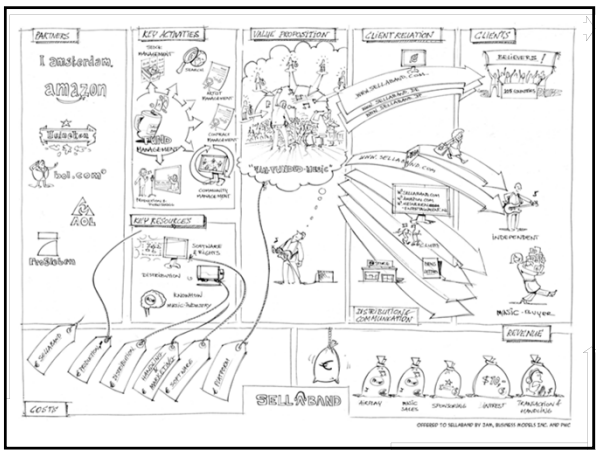
.....Plan First.


Key Plan Elements

1. Executive Summary
2. Value Proposition
3. Company and Purpose
4. Product/Service
5. Business Model
6. Target Market
7. Marketing Strategy
8. Sales Strategy
9. Competitive Analysis
10. Management/Organization
11. Operational Plan
12. Capital
13. Financial Summary
14. Exhibits


1 Page Business Planning Model





Upcoming Events

OCTOBER 10: "Been-There-Done-That" Evening Meeting: Informal talks by successful regional entrepreneurs, accompanied by business service professionals.

FALL: For Students: Business Pitch competition: 'Fun-and-easy' competition for business concept pitch (Shawnee, Rio, OU Chillicothe)

Feedback session finale: Final meeting to gather feedback

WHAT IS *YOUR* BUSINESS?

LET US KNOW HOW WE CAN HELP

Faith Knutsen
Assoc Director Operations
TechGROWTH Ohio
knutsenf@ohio.edu

Shmuel Roth
Business Counselor
TechGROWTH Ohio
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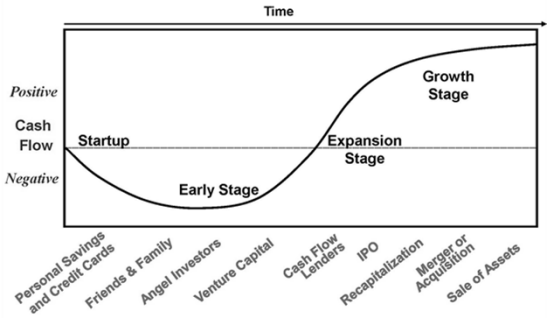
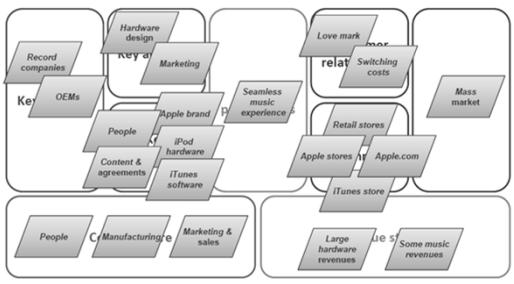
ANCILLARY SLIDES

Startup Business Funding Needs



Apple iPod/iTunes



Source: Osterwalder & Pigneur (2009)

23

What Is Marketing?

- If the circus is coming to town and you paint a sign saying "Circus Coming to the Fairgrounds Saturday – that's advertising.
- If you put the sign on the back of an elephant and walk it into town – that's promotion.
- If the elephant walks through the mayor's flower bed - that's publicity.
- And if you get the mayor to laugh about it – that's public relations
- If the town's citizens come to the circus, you show them the many entertainment booths, explain how much fun they'll have, answer their questions and ultimately, they spend a lot of money at the circus – that's sales.
- And, if you planned the whole thing – That's Marketing!

Market Research
The answer to finding your target market

How do you do it?

- www.census.gov
- Ask local chamber of commerce
- Government agencies
- Readily available websites - see handout
- General internet search
- Specialized SBDC subscriptions
- Trade publications/organizations and associations
- Others in the field-informational interviews
- Competitors

TechGROWTH Ohio

- Third Frontier
- University Sponsored
- Regional Partners
- Venture Managed

PORTS Facility Science Alliance

A TechGROWTH Ohio Presentation

The Future is Now

Why not start your own business?

GhostBlind

- GhostBlind was started locally by Chet Burdette and Kevin Pottmeyer
- Developed a superior hunting blind with superiority in portability, set up, concealment and safety

Apex Sports

- Apex Sports was also started locally by William Wilson
- Apex designs softballs with different seams to make them go farther and faster off the bat

Young People Changing Lives

Gabrielle Posard, 16

PHOTO REMOVED

Gabrielle started a non-profit organization called **Donate Don't Dump** that donates over 20,000 pounds of food a month to hungry families.

Young People Changing Lives

Jack Andraka, 15

PHOTO REMOVED

Jack has developed a way of testing pancreatic cancer that is faster, less expensive and more effective than the current way of testing.

If they can do it… so can you.

Your Turn

- If your group were to start a business, would you be able to…
  - Reach goals?
  - Meet deadlines?
  - Invest wisely?
- If so, you will be able to earn tranche investments and build your own business!

Tranche Investments

- Each client is given a list of goals and is rewarded for achieving them while starting their business.
- Once they reach those goals, we can give them pieces of the promised investment.
- These pieces are called tranche investments.

Game Rules

- Each team has 30 seconds to answer a trivia question about business
- For each correct answer, the company will receive a $20,000 tranche investment
- For each incorrect answer, the company will remain at the same level of investment
- The goal is to reach a minimum of $100,000
- Maximum is $200,000

The Assembly Line was Created by

Henry Ford

John Rockefeller

This Entrepreneur Dropped Out of College

Mark Zuckerberg **Donald Trump**

PHOTOS REMOVED

What Will You Invest In?

Two New Employees

Advertisements

Experienced Management

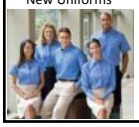
Training Employees

Adding Space

Adding a Service

New Location

New Uniforms



Point of Sales System

Promotions

Which of these would have a commission based salary?

Accountant

Salesperson

The CFO is in Charge of

Finance

Operations

What Will You Invest In?

Two New Employees

Advertisements

Experienced Management

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New Location

New Uniforms

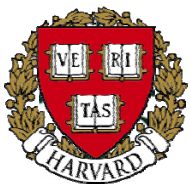
Point of Sales System

Promotions

Bill Gates attended which school?

Yale

Harvard



Steve Jobs was once fired by

Microsoft

Apple

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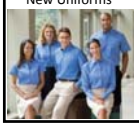


Point of Sales System

Promotions

Net Profit is

Revenue – Costs + Taxes

Revenue – Costs - Taxes

COGS Stands for

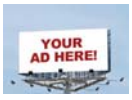
Chief Officer of Gold Standard

Cost of Goods Sold

What Will You Invest In?

Two New Employees

Advertisements



Experienced Management

Training Employees

Adding Space

Adding a Service

New Location

New Uniforms

Point of Sales System

Promotions

B2B Stands for

Business 2 Business

Business 2 Buyer

Which of these are an Asset?

Inventory

Debt

What Will You Invest In?

Two New Employees

Advertisements

Experienced Management

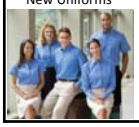
Training Employees

Adding Space

Adding a Service

New Location

New Uniforms



Point of Sales System

Promotions

Where Could the Money Take You?

- GhostBlind
- Found them in the idea stage
- Working in the back room of an accounting office in 2008
- Created 6 Local Jobs
- Globally Distribute to over 380 dealers including Dunhams and Cabela
- Well over $2 Million in sales by 2012

THANK YOU FOR PLAYING AND HAVE FUN AT THE 2013 PORTS SCIENCE ALLIANCE

TechGROWTH Ohio

Ohio | Third Frontier

APPENDIX THREE: Curricular Materials - Pitch Competition Training

Ohio University
Voinovich School of Leadership and Public Affairs

Regional Pitch Competition

John Glazer
TechGROWTH Director

Shmuel Roth
TechGROWTH Business Consultant

Jamie Hankins
GVS Scholar

Faith Knutsen
TechGROWTH Assoc Dir Ops

Made possible through a grant from the U.S. Department of Energy Office of Environmental Management Portsmouth/Paducah Project Office

Who Are We?

- Enterprise growth professionals
- Affiliation: TechGROWTH Ohio at Ohio University
- 20 counties SE Ohio
- 13 regional partners, including Shawnee, Rio and OU-C

Sponsorship

- DOE Gaseous Diffusion Plant, Piketon
- Plant Decommissioning
- Significant regional resources
- Regional encouragement of entrepreneurship

COMPETITION SPONSOR

U.S. Department of Energy
Office of Environmental Management
Portsmouth/Paducah Project Office

Shawnee State * Rio Grande * OU-Chillicothe

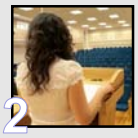
- Independent institutional preparation
- 7th February tour of gaseous diffusion plant
- Individual institutional competitions
- Final regional competition

What happens?

You prepare

1

You practice



2

You present

3

You're judged

4

You win experience

5

Benefit to me?

- How to "pitch"
  - New ideas
  - Yourself as an applicant
- How to apply entrepreneurial thought to your locale ('Spark sheet')
- Regional history: gaseous diffusion plant
  http://www.portsvirtualmuseum.org/
- Theoretical regional economic opportunity (deep background)
  http://techgrowthohio.com/Companies.html

Plant Opportunities

- Location
- Buildings
- Equipment
- People

Elevator Pitch

- One page description
- Try multiple concepts
- Practice on friends and family

Competition Pitch

- Sheet is a guide, not a requirement
- Address all rubric points (help your judges)
- 10 minute pitch (rule-of-thumb: 1 slide, 1 min)

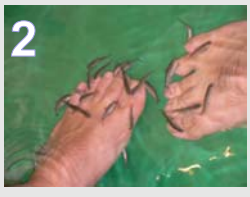
Judges' Rubric

- How are you being judged?
  - Solid content
  - Well-written one-pager
  - Presentation: Practice, practice, practice
  - [have fun!]

Let's Practice

Quick In-Class
Elevator Pitch Exercise

Either: choose your own, or choose one of:



Ohio University
Voinovich School of Leadership and Public Affairs

Regional Pitch Competition

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MEMORANDUM

DATE: 3 February 2014
FROM: Faith Knutsen, Ohio University Voinovich School (knutsenf@ohio.edu)
TO: Regional Pitch Competition participants

RE: Additional Pitch Competition Information

All Pitch Competition teams please review the below as you begin to prepare for your pitch.

1. Recommended process and clarifications to material previously distributed:
    a. Please BEGIN by reviewing out the judges' rubric and referring frequently to it as you work. This is how you will be assessed. Don't forget to address all sections and all points.
    b. We suggest that each competing team start building their 10-minute presentation by making one slide for each 'Component' in the Component matrix (previously distributed). Teams are free to add, subtract, modify and rearrange slides, but this will ensure that you start from the same point.
        i. Please note under the component labeled 'Exit Strategy' that although you may choose to provide a 'sell-it-in-five-years' investor-type "exit," you may also choose to present your concept as a long-term, single-owner local business – or any other long-range plan that fits your concept. There is no advantage to any approach; it all depends on your idea.
        ii. Remember to prepare your two-sentence 'elevator pitch' and use that as your final statement in your presentation.
        iii. Please remember that ten minutes can go by very quickly, especially if you are an accomplished salesperson! Please be respectful of the judges and other teams and practice for the time limit.
    c. Please do not forget to make your one-page overview for the judges
        i. The one-pager can be largely graphical, if that fits your idea and you prefer that route. It can also be fully textual, if that fits your idea best.
        ii. You should start the one-pager AFTER you are fairly pleased with your presentation.
    d. Remember that after your 10 minute presentation you will be asked questions by the judges. All team members should be prepared to participate in this Q&A, even if only one individual presents your slides.
2. Key informational links
    a. http://www.portsfuture.com/ Background studies about the plant and environs.
    b. http://www.portsvirtualmuseum.org/ History of the plant
    c. The Business Model Canvas is a useful one-page iterative business-planning tool that we use at TechGROWTH and throughout our business services and entrepreneurship classes. It is completely optional whether you want to use this.
        i. http://www.businessmodelgeneration.com/canvas Downloadable Canvas and 2-minute overview of its use
        ii. Online mini-course in the Business Model Canvas by founder Osterwalder: http://www.youtube.com/watch?v=RzkdJiax6Tw
3. TechGROWTH business staff availability for assistance
    a. All teams are welcome to our contact information, and we'll make every attempt to answer all emails:
        i. Faith Knutsen knutsenf@ohio.edu
        ii. Shmuel Roth roths1@ohio.edu
        iii. John Glazer glazerj@ohio.edu

Final note: We are coordinating an opportunity for teams to receive individualized feedback on their presentations, perhaps one week prior to each local competition. We will arrange this through GoToMeeting, and will offer a half hour per team. This is optional, but may be quite useful as you put together your final version of your pitch.

This is supposed to be fun as well as educational, so we hope you enjoy at least some of it. Let us know how we can help!

Ohio University Center for Entrepreneurship
Craft Your Own Quick Business Pitch

Fill in the quotation marks with your answer to the questions to create a quick business pitch. Begin by using this template for a full description, and then re-work your writing until you have TWO plain English sentences.

Ask your friends to help by listening to you pitch. Then ask them to fill in the blank form with what they thought they heard. You may be surprised by what they think they heard! Remember: if you don't transmit your message in a way that is received, understood and accepted as you meant it to be – you have not achieved your goal.

When you have finished practicing, you and your team should memorize your pitch.

Fill in the below template with the information that is underlined.

Content of the pitch (fill in the sections in parentheses with information about your product).

For (what is your target Market/segment/group?) Who (what is the common pain prospects have told you they will pay to have removed?) Our (what is your product/service?) Is a (plain English statement of your product/service category) That (what unique value does it deliver?) Unlike (who is/are your dominant competitors, our product delivers what is your differentiation? Can you prove and quote Return on Investment/payback time?)

WORKSHEET FOR YOUR PITCH

For:_____

_____

Who_____

_____

Our_____

is_a_____

that_____

_____.

Unlike_____

our_____,_and_

delivers_____.

Sample pitch:

"For computer users of all ages who want a connected, application-rich mobile computer device, our iPad is a light, easily-carried and cutting-edge that enables instant access to work and gaming. It is unlike any existing laptop or other mobile computing device, delivering immediate gratification at affordable prices for a market of 250 million users within its first six months on sale."

Components of a Successful Pitch

	Component	Content	What the Judge/Investor is Thinking	Best Answers Include
1	**Mission and Problem/Solution**	The one-liner for your idea or company. Plus: an explanation of the problem you're solving, why it is a big problem, what your solution is, and why no one has done this before.	The one liner should capture my interest. The problem/solution should tell me why customers will care and why your solution is unique and best?	You have a compelling and unique idea that solves the intended customer's most important problem using expertise that is really hard for others to match.
2	**Market**	Your total available market: if all your target customers bought your product, how much would that be?	Is this market big enough to yield a highly valued company?	This is an opportunity for more than $X million dollars in revenues with a high gross margin, in a high growth sector where customers will accept startups.
3	**"Second Bottom Line"**	In addition to the company's potential for profits and to grow in value, what will be the economic impact or benefit to society and the economy general?	Will this company or idea be recognized for successes other than financial successes?	This is an opportunity to 'do well by doing good.'
4	**Customer Status**	Who has agreed to pay for the product? Who are the "beta" customers?	Are there customers that matter with high willingness to pay?	Reference customers who are anxious to get and use the product.
5	**"Go to Market" Strategy**	What channel will get you in front of the customer? How will you deliver after-sales service to the customer?	Is there a channel that can allow this company to get their product to customers profitably? Are there any major barriers?	Product will sell through established/known channels with quick turnaround and a significant share of the target market.
6	**Key Milestones**	What happens when? Tell us about your plan and forecast. What are the key steps that get your product to market?	How will your next steps be sufficient to attract and qualify for the next round of investment you'll need?	Simple milestone chart showing key steps, the funding needed to accomplish them, and how they transition the company to market while growing its value.
7	**Competition Overview**	A chart with your product and your competitors down the left side and characteristics of your idea or product across the top showing how your idea/product stacks up against the competition.	How is the company positioned in relation to other companies I've seen? How are companies in this category valued? Do I know about competitors that this presenter doesn't have listed or are does this presenter understand the competition?	You know who the competition is, have not underestimated their importance, have a clear understanding of what distinguishes you from them, and can show how you have competitive advantage.
8	**Exit Strategy**	What is your vision for the "end game"? Are you going to sell the company, or is this a "lifestyle business" that you will keep running?	Does this presenter have a reasonable idea about their goals for this company and a clear understanding about how investors earn a return on investment?	You have a strategy for how your company will give a return to investors, how long that might take, and how best to maximize the value the company will have.
9	**Capital Access Plan**	Funding requirements and how you will achieve them. What are the sources and uses of funds to achieve key milestones?	Does the presenter understand the financial magnitude of commercializing this idea, and how to attract the funding?	Your funding requirements are reasonable and achievable. They will accomplish your plan and create a valuable company.

CENTER FOR ENTREPRENEURSHIP BUSINESS PITCH COMPETITION

NAME OF COMPETITOR: _____

JUDGE: _____

POSSIBLE	SCORE	
		Quality of Your Idea: innovative thinking and degree of forward planning
20		Competitor/market analysis
20		Value proposition
20		Degree of innovation
		Quality of Your Presentation: style, vision, capacity for audience engagement
20		Communication of the strategic plan
20		Audience engagement
20		Effective oral summary
		Your One-Pager: how concisely and effectively you have summarized your idea
20		Effective summary
20		Quality of language
20		Attractively presented
180		TOTAL

COMMENTS

Student Business Pitch Competition
U.S. Department of Energy Portsmouth Gaseous Diffusion Plant (PORTS)

Business Idea Spark Sheet

The PORTS site consists of a multitude of resources, including skilled employees, a robust infrastructure, and certain equipment and facilities, which have the potential to be channeled into other unique business opportunities. A number of employees on the site have technical and/or governmental certifications that allow opportunities for them to apply the skills they've acquired to new entrepreneurial businesses.

This is a list of some of the different sectors of the PORTS site that have specific skills/equipment/experience. The list is offered as a tool to begin the brainstorming process for new hypothetical business ideas:

1. Lab analysis - Chemists and technicians have the necessary skills and analytical equipment for testing for chemical and radiological analytes, as well as extensive experience testing for other environmental hazards.
2. Security and Cyber Security - The site has skilled security personnel knowledgeable in various aspects of physical and information security.
3. Regulatory Expertise and Compliance - The site has employees trained in Occupational Safety and Health Administration (OSHA), Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), and Resource Conservation and Recovery Act (RCRA) regulations, as well as North American Electric Reliability Corporation (NERC) regulations specific to the power grid and interstate energy transactions.
4. Industrial Laundry and Decontamination - The site has specialized workers and equipment for this function that may have the potential to be contracted out for other companies in need of this service.
5. Personal Protection Equipment - Highly skilled people and equipment specializing in the cleaning and maintenance of respirators, HAZMAT suits, and other personal protective equipment.
6. Machine Shop - The site has skilled machinists and a variety of equipment, including computer-aided design equipment used in making unique parts.
7. Other items: the site has specialized employees/equipment for painting (both removal and large-scale application), welding, wood working (which may have a variety of applications), and others.

This list is by no means comprehensive, and opportunities outside of the skills that are outlined above are certainly available. The site covers more than 3,700 acres, with the former gaseous diffusion plant covering approximately 640 acres. The land is considered a 'brownfield' site, with decontamination and decommissioning under way. For more information regarding different aspects of the facilities on site, visit portsvirtualmusuem.org.

Be creative and good luck!

2014 Regional Pitch Competition: Team Name _____

Quality of Idea: Innovative Thinking and Degree of Forward Planning

Competitor/Market Analysis	/20	Comments:
Value Proposition	/20	
Degree of Innovation	/20	
Total	/60	

Quality of Presentation: Style, Vision, Capacity for Audience Engagement

Communication of the Strategic Plan	/20	Comments:
Audience Engagement	/20	
Effective Oral Summary	/20	
Total	/60	

Quality of One-Pager: How Concisely and Effectively the Idea Has Been Summarized

Effective Summary	/20	Comments:
Quality of Language	/20	
Attractively Presented	/20	
Total	/60	

Overall Total	/180

Additional Comments: