SWOT Analysis

The Technology Subcommittee

TEAM MEMBERS:

Member: Danny DeMarinis
Mike Lara
Ken Lewis
Linda Tipton
Admin: Melissa Sadowski
Chair: Norman Gaither

*This report is respectfully submitted by Norman Gaither.

OVERVIEW

At the behest of the EDC and Lisa Webb's economic development team, the Technology Subcommittee was formed with the goals of:

- Providing support to the advancement of technology in the county
- Working with partners and organizations to identify barriers to technology growth in the county
- Making recommendations for improvements
- Creating a Tech-Led Economic Development environment
- Supporting a Tech Plan and Incubator Feasibility Study
- Identifying methods to strengthen the county's Technology sector
- Reviewing available technology resources (TEDCO, NMTC, etc..)
- Working with the Finance Committee on Business Incentive Fund (such as Tech Training Grants)

As a first step in this process, the subcommittee met on October 8, 2012 at the Northeast Campus of Cecil College to discuss a strategy for accomplishing the goals and objectives of this charge. At the request of Lisa Webb we began our work with a SWOT analysis of the county as it relates to Technology. The team assigned ownership for addressing each task. We agreed upon various methods of communicating our progress and we established benchmarks and goals for our first draft of the SWOT.

This document represents the initial analysis of Cecil County's technology capacity as it pertains to the Strengths, Weaknesses, Opportunities, and Threats we currently face in the county, and may face in the foreseeable future.

The reports were summated by:

Norman Gaither –**Strengths**

Dr. Ken Lewis -**Weaknesses**

Danny DeMarinis – **Opportunities**

Mike Lara - **Threats**

STRENGTHS

Submitted by team member and chair: Norman Gaither

Overview: Cecil County is a commercial realtor's dream –location, location, location as noted on the web page for Cecil County Economic Development. The county is juxtaposed to Aberdeen Proving Grounds, the new STAR campus for U of D, Baltimore, and Philadelphia, affording Cecil the opportunity for fostering unique startups and providing growth opportunities for mature technology businesses.   There are many *strengths* that Cecil County possesses with regards to Technology Advancement. For the purpose of this analysis, we have broken these STRENGTHS into categories, starting with our current assets in Tech companies and progressing through available space, educational programs, and collaborative efforts with other education systems, counties, and states.

Current Technology Companies Residing in Cecil County

This list provided by Office of Economic Development and our subcommittee administrative support, Melissa Sadowski, represents what currently exists. However, it will become apparent under Mr. Danny DeMarinis's Opportunities report, that the location of our county, along with many other aspects makes it a great place for Tech growth and expansion.

 Air Clear, LLC – Environmental Tech Services
Aquafin Building Products Systems – Advanced Manufacturing
ATK Elkton – Advanced Manufacturing, Chemical / Biotech / Pharmaceutical, Engineering, Test & Evaluation
Cani Optical Systems, LLC. – Medical Devices
Coates, G.H. LLC – Advanced Manufacturing
Colonial Metals – Chemical / Biotech / Pharmaceutical
Composites USA – Advanced Manufacturing
DuPont Performance Elastomers – Advanced Manufacturing
Fluoron, Inc. – Advanced Manufacturing
Ice Protection Tech, LLC – Advanced Manufacturing
Integrity Tool & Fastener, Inc. -
Metal Sales and Service – Advanced Manufacturing
Micropore, Inc. – Medical Devices
Operative Experience – Medical Devices
Plasticoid Corporation, Inc. – Advanced Manufacturing
PTFE Compounds, Inc. – Advanced manufacturing / Materials Testing
Siemens Metal Refinishing and Improvements – Advanced Manufacturing
Spiralcat Innovations – Chemical, Biotech, Pharmaceutical, Environmental Tech Services
Terumo Cardiovascular Systems – Medical Devices
Terumo Medical Corporation – Medical Devices
United States Ballistic Engineering, Inc – Test and Evaluation
W.L. Gore – Advanced Manufacturing / Engineering / R&D
Weitron – Advanced Manufacturing

Available Locations for Technology Growth with Infrastructure in place

The county has a substantial amount square footage (over 500,000 sq ft.) available that currently has access to all necessary infrastructures to support technology centers as well as technology support centers. The following represents a listing of these buildings:

Location	Common Name	Square Footage currently Available	Classification
912 Appleton Rd.	Former: Basell Polyolefins	158,790	Class C /Flex, R&D
189 Belle Hill Rd	Cecil County Ind. Cluster	50,226	Class A /Service
101 Chesapeake Blvd	Upper Chesapeake Corp. Center	6,000	Class B /Office
107 Chesapeake Blvd	Upper Chesapeake Corp. Center	7,400	Class B Flex/Light Manufacturing
200 Elk Park Way- Building 200	Cecil County Cluster (AKA 505 Blue Ball Rd)	12,000	Class B Office
205 Elk Park Way	Triumph Industrial Park (Bldg 205)	20,000	Class C/Manufacturing
801 Elkton Blvd	Cecil County Ind. Cluster	127,000	Class C/ Warehouse
40 Industrial Dr	Peninsula Industrial Park	50,000	Class B/Manufacturing
10 Principio Pky	Principio Business Park	36,000	Class B/ Flex
950 Principio Furnace Rd.	Cecil County Ind. Cluster	28,000	Class B/Warehouse
80 Technology Dr./ Bldg 80	Cecil County Ind. Cluster	9,400	Class C/Warehouse

*Additional land is available for new construction as well.

Educated Work Force

The initial engagement by Cecil County School Systems to embracing the advancement of technology was in January of 2003 under a study that evaluated the current status of *Cecil County School System's Career Technology Education Programs.* After the findings of that study Cecil County took up the charge of moving our programs and student technology competencies forward. Quoting the 2005 initiative; "In April, 2005, Dr. Carl Roberts, Superintendent of Cecil County Public Schools, authorized a Joint Commission consisting of Cecil County Public Schools' teachers and administrators, Cecil Community College teachers and administrators, and business leaders from the region to review the Cecil County Public Schools' Career Technology Education (CTE) program from the perspective of workforce development needs and student interest." The full report can be viewed at www.ccps.org/Final%20Document.pdf.

Supporting organizations like BEPAC which provides business input to education, which in kind, assures workforce readiness of students and demonstrates the strength of collaborative efforts between business and education in the development and advancement of a strong technology based workforce.

Cecil County's Public School system is currently engaged in the 'Common Core' curriculum. Their focus is on three areas: Mathematics (Mathematical Practices), Reading (RELA –Reading, English, Language Arts), and STEM (Science, Technology, Engineering, and Mathematics). These initiatives provide the keys elements that technology based companies consider when relocating or locating their firms -a well trained skilled workforce.

Cecil County's School of Technology, located adjacent to Cecil College's Northeast campus, is successfully engaged in a myriad of technology related programs that provide industry recognized certifications through many of their programs. [1]They rank above the State averages in certifications (State= 65.3% -Cecil =80.42%), percentages of on-time graduates (4 years)(State =95.72% -Cecil =99.1%) , EnglishII (State=82.43 –Cecil =86.62%), and Algebra (State=86.6% -Cecil =95.07%). According to Mr. Lewis Erbe, principle of Cecil County School of Technology, the awards students have accumulated include: Middle States Accreditation, many State winners in SkillsUSA competition and FFA competitions

Clearly Cecil is gaining strength through its student body, instructors, and administrators of our technology based efforts. And, clearly technology prowess leads to job creation opportunities and remains a huge attracting force for tech companies looking to Cecil for solutions. According to [2]Bloomberg Business Week, "Employers in all industries will favor workers with skill and education ranging from certificates earned at community colleges to higher degrees."

The School of Technology currently provides education in: Allied Health, Automotive Technology, Exploratory Skills, Construction Trades, Computer Electronics Tech, Cosmetology, Culinary Arts, Electrical Trades, Fire Science/EMS, Heavy Industrial Maintenance, HVAC/Plumbing, Individual Trade

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[1] Source: TimCorder Assistant Principle Cecil School of Technology

[2] Business Week article: "Recoverny: Where will the jobs come from?" Chris Farrell July 15, 2009

Skills Opportunities, Natural Resources, Student Transition and Employability Program, Webmaster Technology, Welding Metals Technology, and House Building Program.

STRENGTHS –ATTRACTING TECH BUSINESS

According to the Department of Economic Development for Cecil County there have been   several businesses considering Cecil as a possible site for their location. Most of these new opportunities come by way of the Economic Alliance of Greater Baltimore. Due to confidentially that is required by these companies, the names are coded during the [3]RFP phase. New RFP's are responded to, and generated by our Economic Development team expeditiously. However, many of these companies are considered Tech type companies.

Synergistic relationships with NMTC, TEDCO, Cecil College, and the county's participation in BRAC are just some of the ways that Cecil County has marketed our resources to Technology companies and Technology startups.

As noted throughout this section, the county has the elements of a business friendly profile that addresses; workforce readiness, tech capacity, growth corridors, multi-business resources, training, fast track permitting, and an Economic Development Team support that is second to none. Additionally the county is looking at Alliances with surrounding Tech Schools and projects as well as possible business incubators.

These attributes, along with our rich history, bucolic countryside, access to major thoroughfares, and recreational areas, make Cecil an Attractive Place to locate business.

Strategic Collaborations

Over the past few years [4]Cecil College has been creating relationships with other surrounding universities and colleges. From a Tech standpoint Cecil has demonstrated that it can be a Hub for technology, both through education and expansion of broadband hookups to the College, Library, and Local Government -through [5]BTOP (Broadband Technology Opportunity Program), every school will be connected in 2013 with the exception of three outlying schools. The completion of broadband installations is slated for August 2013. The possibility also exists for the extension of the Marc Train Line. Commuters from and too Cecil would further support the possibility of Cecil as a Technology and innovation hub with the possibility of creating Tech industry incubators. Danny DeMarinis's report on OPPORTUNITIES provides a holistic view of the collaboration that exists within Cecil and within our surrounding communities.

[3] RFP = Request For Pricing
[4] Information provided by Dr. Steve Pannill
[5] Information provided by Steve DiFilipo

Discussions with Andrew Lubin of the STAR campus site development, supports the strength that Cecil County has for the development of an incubator program that could potential draw on the resource of the STAR programs in a regional approach to economic growth. Initial inventories of properties that are suitable for such a program (business incubators) are apparent (as noted within this report). The synergies of a regional approach given Cecil proximity to these emerging resources, is truly a strength of the County.

As a final note: Cecil College will be breaking ground on its planned Math and Engineering Building in March of 2013.

WEAKNESSES

1. Lack of an established technology base to serve as a foundation and magnet for future technology growth.

    Existing technology businesses are typically drivers for new technology ventures. An established technology base creates and maintains a pool of technology workers. The established assets of a technology base provide opportunities and economies of scale attractive to new businesses. Examples include the Aberdeen Test Center's Roadway Simulator and Army Research Rodman Laboratory. Without a critical mass of existing technology resources, new technology ventures must rely on costly internal assets.

2. Competition from the Delaware Technology Park in Newark, Delaware

    The Technology Park currently houses 54 tenants in 5 buildings, and has substantial room for further growth. Its IT infrastructure and proximity of the University of Delaware are highly attractive to technology firms. The Delaware Technology Park will be an appealing option for firms that might otherwise consider a location in northeast Cecil County.

3. Lack of a sound infrastructure system to support technology business development.

    Fully accessible broadband telecommunications infrastructure and reliable public water and sewer are needed to attract technology businesses. Competing counties offer greater proximity to Baltimore, Washington and Philadelphia. Direct passenger rail and air transportation is absent. Economic Development resources are limited.

4. Lack of a reputation for a technology orientation.

    Cecil County is perceived as rural. The current availability of a technical workforce in Cecil County is perceived as low and the absence of a four year college or research university within the county may be a deterrent. Cecil does not have a track record for support of the start up of technology companies.

5. The return on investment/cost benefit analysis of investments to strengthen technology over other economic sectors is unclear.

    Cecil County has an established record of success in agriculture, tourism and distribution. Are more cost effective economic development alternatives available?

OPPORTUNITIES

The objective of this section is to address technology opportunities in Cecil County in the 2012 − 2017 time frames. It will constitute the "O "section of a SWOT [Strengths, Weaknesses, Opportunities, and Threats] analysis. Opportunities come in two dimensions i.e. those based on positive demographics and those that leverage the region's strengths / align such strengths with associated opportunities and ensure coordinated execution. This section therefore is closely aligned with the Strengths[S] section in this plan.

APG / Regional High Technology Opportunities
[Opportunity to support]

Aberdeen Proving Ground [APG] has been projected as having brought close to 30, 000 new jobs to Northeastern MD , including 8500 government positions with an average salary in excess of $87,000 from 2006 − 2011 [Ref. 1] . The majority of these new positions are in such high technology areas as:

. Information Technology

. Software Engineering

. System Engineering

. Electrical Engineering

. Chemical Engineering

. Computer / Cyber Security

.Telecommunications

. Nanotechnology

. Biomedical / Bio Technology

. Test & Evaluation

. Etc.

APG employees over 23,000 employees [government, industry] in the above high technology domains and is expected to grow over the next 5 years [subject to sequestration challenges]. In fact 20% of the current APG

workforce comes from Cecil County [Ref.]. The Acquisition, Contracting, Research & Development associated with APG have been as high as $23Billion [annual in the past few years]. Furthermore APG has established Centers of Excellence in Chemical / Biological Defense , Materials Research , C4ISR [Communications , Command , Control , Computers , Intelligence , Surveillance & Reconnaissance] , etc. In October 2012 Cecil County has signed a covenant / partnership with APG to better partner with APG. As a result of these demographics Cecil County has the opportunity to:

. Better align the many skills of the high technology companies identified section _ above [i.e. Current Technology Companies in the medical , Test / Evaluation , R&D , Chemical / Biological / Bio Tech. etc. domains] to these APG needs as well as to attract additional high technology firms to our area that want to better take advantage of these major opportunities .

.Increase the numbers [i.e. by attraction, education] of critical skill / top tier knowledge workers to meet the needs of APG / our region

. Develop business / technology incubation to transition / commercialize the technologies developed in support of APG. Recent successful efforts of our sister counties will provide lessons learned opportunities. Furthermore Cecil county's relationships with TEDCO provides further opportunities for technology incubation / technology transition thus creating new high technology jobs .

. Leverage the skills / civic interests of the 18% of the knowledge workers [over 1000 families; Ref.] that have transitioned to our County as results of BRAC [movement of several thousand Fort Monmouth workers from Eatontown, NJ to APG   ]

.Leverage the Covenant with APG to better guide Cecil County's job opportunities at APG while serving the War fighter

Regional Technical Education Excellence
[Opportunity to Leverage]

As noted above, Cecil County has established high quality STEM [Science Technology Engineering Mathematics], CTE [Career Technology Education] programs. The county has also established a business group to guide such education with respect to regional technology business needs [BEPAC] , has participated in APG's STEM Summits [to develop STEM in support of APG's technical workforce needs] and has a School of Technology that addresses Computer electronics , Electrical , Health , Web technologies etc. These capabilities can be leveraged / focused and serve as opportunities to meet APG's and the Region's high technology skill requirements / jobs.

High Technology Business Associations Partnerships
[Opportunity to Partner]

Several high technology business associations serve our area that Cecil County has relationships with / memberships in. Such associations include NMTC [Northern Maryland Technology Council] with over 175 member companies , NBC [Nuclear , Biological , Chemical Association [with 137 Companies] , The Economic alliance of Greater Baltimore , the Chesapeake Science & Security Corridor [CSSC , 50 member organizations from Baltimore to New Castle County] etc. Such associations allow Cecil County the opportunity, to broadly partner in an efficient manner to bring new job opportunities, and attract high technology companies to meet the region's skill / knowledge worker needs.

Academic Partnerships- Research & Development / Science & Technology Entities
[Opportunity to Develop / Transition Technology]

The University of Delaware is developing a University Research Park [STAR] in our region [Newark], and the Northeastern Maryland University Research Park [NEMD – URP] is developing a University Research Park to support Cecil / Harford Counties. Cecil County's OED is a board member of NEMD – URP. These Research / Technology Parks offer Cecil County the opportunity for high technology job creation and attraction of high technology firms / academic Institutions. Research / technology Parks are major incubators of jobs, and attractors of high technology firms. Specifically these evolving regional Research Parks serve as technology clusters central to high technology creation .The existing 175 National Research Parks [Ref. AURP-]have well served our nation and the existence of two such evolving regional Research Parks is both an opportunity and sign of the attractiveness of our region WRT high technology . Lastly Cecil College's many new Academic partnerships with 4 year institutions [UD, Salisbury University , WU etc.] and their new Engineering , Logistics , Contracts programs offer the opportunity to better educate / meet the knowledge worker's HE [Higher Education] needs .

Higher Education Legislation
[Opportunity to Bring HE Institutions to Cecil County]

Recently MD has created a Higher Education Task Force [HB 256], as well as established a Regional Higher Education Advisory Board [HB 362]. Cecil County has served on these important higher education activities. The increased focus of Higher Education in our region provides the opportunity to attract major technical universities to better serve our region and to educate our work force to meet the high technology skill requirements of our region. Cecil County is now an official member of the region's new HE Advisory Board at the HEAT Center and has the opportunity to positively affect / leverage all higher education activities in our region.

Infrastructure
[Opportunity to Install IT Infrastructure Efficiently]

The new contracts / efforts by Artesian Water are creating the ability to serve high technology companies and to ensure they have the water to meet such firm's requirements. Also there is the opportunity for IT infrastructure [i.e. cable / fiber systems] to be installed along- side such water installations and save on installation costs.

THREATS

The objective of this section is to address the threats to developing and maintaining technology opportunities in Cecil County in the 2012 – 2017 time frames. It will constitute the "T" section of a SWOT [Strengths, Weaknesses, Opportunities and Threats] analysis. The discussion is intended to capture the elements that that need to be considered when planning future actions or delays to taking action as part of the Economic Development Commission's strategic framework.

As highlighted in the Opportunities section, external events (BRAC, UD Research Park) have brought a large influx of talent and resources to the area that Cecil County can leverage to increase the County's level of participation in technology development initiatives. So where should we be focused with regard to threats and developing threat mitigation strategies?

Federal Budget / Planning

Irrespective of the election's outcome, there remain significant challenges in the federal budget. Although the impact of the mandated across-the-board sequestration cuts is likely to be tempered by post-election compromise, there is no question that significant cuts are coming.   Unknown at this time is where those cuts will focus and how that might play against some of our opportunities.

Local Budgets / Planning

Without a fully integrated comprehensive plan for the County, we will remain at risk of not having the right amount of budget available at the right time to exploit developing opportunities.   Timing is critical and could make the difference in whether opportunities are captured or lost.

Established Companies

The current economic impact on commercial businesses is putting pressure on their ability to invest in new infrastructure and lines of business. Expansion projects will likely be limited by conservatism in their modeling.

New Companies

New venture successes will be critical to building momentum. Poorly selected/managed projects now could spawn a negative picture that influences others.

Workforce

Failure to offer a stable/renewable supply of qualified trades/knowledge workers will be a huge negative. Businesses may start by bringing in core teams from other locations, but they must see a viable source of supply to handle attrition and growth. Population trends? Demographic trends? Incubators?

Infrastructure

Water, sewer, power and telecom/IT infrastructure will all be assumed to be developed, stable and in the case of IT, redundant. We will not be a viable choice without being able to meet basic needs.

Geographic Location

We are surrounded by larger cities/communities that can offer compelling alternatives that exploit our weaknesses.

Transportation

Though being close to the I-95 corridor is a definite strength, limited interchanges and high tolls on both sides of the county make for a poor comparison to neighboring counties.   Cecil connector is still in discussions.

Neighboring competition

Both Harford and New Castle County represent significant competitive threats.

The University of Delaware's Research Park will draw attention but the State of Delaware may be able to erect barriers that fence us out.