

Buffalo Niagara Enterprise Life Sciences Strategic Marketing Plan

June 30th, 2010

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Sincerely,

Shilpam.

June 30th, 2010

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IMPORTANT NOTE

This report is meant to provide guidelines for implementation of the life sciences marketing strategy for the Buffalo Niagara Enterprise ONLY. This is not a policy document or intended to provide direction for the life sciences industry as a whole in the Buffalo Niagara Region.

This document was completed on June 30th 2010.

1.0 INTRODUCTION

The 21st Century is widely viewed as the “Bio Century”. The life and bio science industry is expected to be the fastest growing sector in the world during this century. In the United States, the National Institute of Health (NIH) alone invests over \$30.5 billion annually in medical research. The American Recovery & Reinvestment Act (ARRA) appropriated an additional \$10 billion to NIH in 2009. According to Pharmaceutical Research and Manufacturers of America (PhRMA), an industry trade group, pharmaceutical research investment by U.S. companies alone, reached \$65.2 billion in 2008. A Hoovers industry report states that biotech companies in the U.S. alone spent over \$30 billion on research in the last two years.

The convergence of advanced technologies in information technology, engineering, and biological sciences is producing widespread opportunities for the development and growth of companies engaged in drug development, medical implants and devices, healthcare products and services, and many other bioscience and life science related applications yet to be developed or imagined. A quick survey of online resources confirms that regions across the United States and the world are seeking to capitalize on the breakthroughs being made to grow their economies and benefit their citizens.

The life and bio science industry is transforming at a rate never seen before and that offers great opportunities for new developments and growth. Scientific and technological advances have multiplied, and global markets have opened. The environment of the pharmaceutical, biotech, and medical device markets increases in complexity every day. Large companies like Pfizer, Eli Lilly, Genentech, Merck, Boston Scientific and niche players such as Ivoclar Vivadent, Invitrogen, Gaymar Industries, Moog, Greatbatch and others face difficult challenges including reduced productivity, reduced marketing and sales effectiveness, and increased competition. Companies are looking at ways to maximize efficiency and gain competitive advantage. Proposing cost and time savings, assistance in expansion or relocation to lower cost areas with additional benefits such as access to related research facilities, international market amongst others is welcomed by companies. Companies are very interested in tangible benefits that translate into lower costs, increased revenue for them.

A June 2008, State Bioscience Initiative study from Battelle, an applied science and technology development nonprofit, for BIO (Biotechnology Industry Organization), the world's largest biotechnology organization discusses how bioscience is a knowledge-based industry and how it requires a region to harness its best, in terms of talent by leveraging niche characteristics, in order to effectively grow business and boost employment. It requires a strong foundation and significant investments in scientific research and development. The sector often thrives in metropolitan areas and states with premier university, hospital, and other centers of life sciences research. A strong local bioscience industry yields economic benefits in the form of high-paying jobs and their subsequent positive ripple effect. To quote Jim Greenwood, President and CEO of BIO, "When states invest in building bioscience industries, they are at the same time making long-term investments in their citizenry with higher education-especially in science, math, and technology. These investments pay off with high-wage, new economy jobs, in a growing industry".

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Bureau of Labor Statistics (BLS) records show that total U.S. employment in the biosciences reached 1.3 million in 2006, up from 1.2 million in 2004. Using multipliers provided by the U.S. Bureau of Economic Analysis (BEA), Battelle calculated that each job results in 5.7 additional jobs. The average annual wage of bioscience workers in the United States was \$71,000 in 2006, about \$29,000 higher than the average private sector annual wage. The drugs and pharmaceuticals subsector offers the highest average wage at \$87,000. Workers in the life and bio science industry are higher paid than the manufacturing sector and private industry which results in a higher trickledown effect in the entire region.

Due to multiple advantages of having life and bio science industries in the area, several regions within the U.S. and within New York State, already aggressively market themselves as premium life and bio science locations. The State of New York has also made significant investments such as the Center of Excellence in Bioinformatics and Life Sciences at the University at Buffalo, the Gen*NY*sis and capital programs of the New York State Office of Academic Research and Technology (NYSTAR). Buffalo Niagara region has several assets in addition to the ones mentioned above that can be marketed to the companies looking to grow, expand, and relocate or startup. A comprehensive marketing strategy aimed at the life sciences industry is needed to increase the life and bio science industry footprint in the Buffalo Niagara region.

2.0 PROJECT DETAILS

The Buffalo Niagara region is already home to more than 130 life sciences companies ranging from pharmaceutical manufacturers, biotechnology companies, medical device manufacturers, biomedical software and service companies. Access to larger international markets and skilled workforce makes the Buffalo Niagara region a competitive candidate to claim its portion of the growing life and bio sciences industry. Facilities such as the Buffalo Niagara Medical Campus, Buffalo Life Sciences Complex with renowned research institutions such as Roswell Park, Hauptmann Woodward Institute and University at Buffalo combined with the Center of Excellence in Bioinformatics and Life Sciences are significant assets valued by companies looking to grow. The Center of Excellence has already created more than 4,000 jobs since its inception in 2001. The positive economic impact of a comprehensive growth strategy cannot be disputed based on experience in the Buffalo Niagara region and other region in the U.S.

Buffalo Niagara Enterprise (BNE) recognizes the need for a comprehensive marketing strategy to expand the life science industries footprint in the Buffalo Niagara region. A dynamic and customized marketing and implementation plan is needed to capitalize on existing assets and to build, expand, grow to attract more life science related companies to the region.

Life Science Marketing Strategy for the Buffalo Niagara Enterprise

Goal: Establish a Life Sciences marketing strategy for the Buffalo Niagara Enterprise

The project was conducted in six phases listed below.

- Phase 1: Preliminary analysis & benchmarking to identify successful marketing strategies for the life science industry in other regions and previous efforts in the Buffalo Niagara region
- Phase 2: Regional analysis to identify key players in the Buffalo Niagara life science industry (companies and economic development organizations)
- Phase 3: Conduct a SWOT (Strengths, Weaknesses, Opportunities & Threats) analysis for the Buffalo Niagara region as it relates to the life science industry
- Phase 4: Sector Identification: attractive life science industry sectors globally
- Phase 5: Build marketing pipeline: Generate a prospecting list by specific industry sector based on NAICS (North American Industry Classification System (formerly SIC or Standard Industry Classification) code
- Phase 6: Develop an Implementation Plan for marketing Buffalo Niagara's life science industry

Scope:

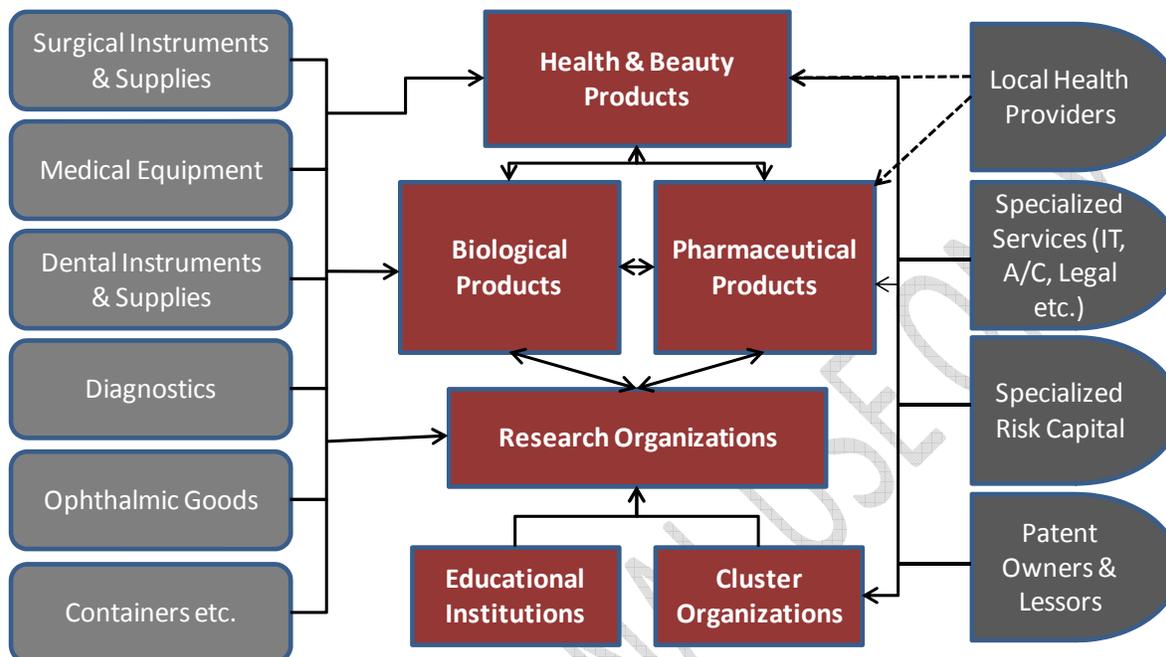
The project scope was limited to defining the marketing strategy for the Buffalo Niagara Enterprise, keeping in mind BNE's mission of "attracting business investment to Buffalo Niagara". Sectors and marketing channels identified based on the data collected and analyzed, interviews conducted and SWOT analysis performed are time sensitive and recommendations made based on this information will have to be updated periodically. Updating and customizing the marketing material on an ongoing basis was not within the scope of this project. However, pursuing the identified companies and related activity would be the next logical step building on the activities proposed here.

3.0 LIFE SCIENCES INDUSTRY

The life sciences, also often referred to as biosciences, comprise all fields of science that involve the scientific study of living organisms, like plants, animals, and human beings. However, the study of behavior of organisms, such as practiced in ethology and psychology, is only included in as much as it involves a clearly biological aspect. During the course of the investigations for this project, I also discovered that each subsector has a different definition of the life sciences industry. For the purposes of this project, I used the definition provided by the Institute for Strategy and Competitiveness at the Harvard Business School. Below is a visual representation of this definition.

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All healthy life science destinations have either all of these components or significant presence of some of them. Support services such as specialized IT or legal, risk capital though not technically life sciences, but are essential to foster a health life sciences cluster.



4.0 LIFE SCIENCES REGIONAL COMPETITIVE BENCHMARKING

The life science industry and the competitive landscape for becoming a 'life science destination', approach to economic development is rapidly changing. Globalization of markets and the value chain has created different opportunities and threats. The industry and in particular the pharmaceutical sector is undergoing a shift from vertical integration to relying on outside partners and institutions to meet customer needs, tap new markets and develop products. Successful life science regions compete on the basis of being the most productive regions. From being a predominantly government driven model, the new economic development model is a collaborative process with government, companies, teaching and research institutions and other collaborative organizations.

As a part of the competitive benchmarking process, life science destinations at various stages and sizes were analyzed in addition to industry reports such as the 44 state Battelle report for BIO, Milken Institute etc. Some cities and regions analyzed include Cleveland, Seattle, Michigan, North Carolina, Indiana, Pittsburgh, Madison in Wisconsin, San Francisco, Boston, United Kingdom and the Alsace BioValley, a tri nation area bordering France, Germany and Switzerland.

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Below are some common factors that these successful regions have employed or are in the process of implementing.

Common success factors:

Strong, engaged research institutions & universities with significant ‘translational’ research lie at the heart of successful, leading economies across the US, especially in the life sciences industry. The role of universities is developing ‘commercializable’ ideas, in yielding scientific knowledge, discovering breakthrough ideas, fostering innovations, seeding new companies and creating jobs. There has been significant research on companies’ motivations to move or to remain and expand in a region. Many studies and surveys confirm that although many factors play a role, two of the most important appear to be access to a pool of specialized workers and the ability to benefit from knowledge spillovers from the concentration of research, innovation and specialization. Recent articles such as the one about P&G signing a deal with Ohio Universities to reduce their product development time to market by 18 months or the article about Toledo reinventing itself as a ‘Solar City’ in USA Today drive home the importance of having this collaborative relationship between academia and business as well the positive impact of a strong, engaged academic institution.

All life sciences destinations **pick a specialty and focused their efforts** behind it. This is either a sector choice as in the case of BioInnovations Institute in Akron, BioEnterprise in Cleveland, BioCrossroads in Indiana or a lead ‘anchor’ tenant such as Bayer in Mission Bay (University of California San Francisco) area.

In addition to having strong, engaged research collaborators, regions **foster an ‘entrepreneurial spirit’** with opportunities for commercialization, intensive networking across sectors, supporting academic entrepreneurship focused initiatives. This is done through collaborations and a variety of incentives aligned for scientists to commercialize research. In addition, healthy life science communities **develop strong support organizations**, formal & informal networks to gain critical momentum and reach a self sustaining level of growth and activity. This is not to say that a life science destination that has a critical momentum does not need additional investments. The Governor’s office in Massachusetts has a \$1billion initiative for the next 10 years to foster further growth in this industry despite the fact that Boston is one of the leading life science destinations in the U.S. and in the world.

To maximize benefit of having a vibrant life sciences cluster or to develop such a cluster, regions **employ multi pronged efforts** that include tax incentives & favorable policies in addition to specialized incubator space, infrastructure investments, support organizations, relevant technical education etc. Initiatives such as the Third Frontier in Ohio, Texas Emerging Technology Fund, Missouri Lewis & Clark Discover Fund aid commercialization work to support and benefit from the research and development going on in these areas. Funding is secured for multiple years and for all stages of product development. **Coordinated marketing campaigns** address the image of a region beyond just the life sciences community.

The life science industry is unique in terms of the product cycle and nature of business. Due to the high capital, skill and time requirements in this industry, it is essential that a region maintain a **long term strategic vision**.

5.0 REGIONAL SWOT ANALYSIS

Several sources of information (listed in 9.0 RESOURCES) were used to conduct a SWOT (Strength Weaknesses Opportunities & Threats) Analysis. Over the course of this project, I interviewed about a 100 people from local companies, research and academic institutions, support organizations etc. Based on these interviews and data collected from various sources I conducted a SWOT analysis that is summarized below.

Strengths:

- Strong research and teaching institutions such as UB, Roswell & Hauptmann Woodward Inst.
- Diversity of UB offerings: Biomedical Eng., Medical, Dental, Pharmacy school etc.
- Large healthcare providers locally
- Specialized & responsive workforce training institutions such as ECC, NCC, Buffalo State etc.
- Access to Canadian markets: proximity to the Golden Horseshoe Bioscience Network
- Medical devices 'cluster'
- Modest presence of 'Research, Testing & Medical Labs'
- Low cost of living & high quality of life
- Attention/Activity in sector locally

Weaknesses:

- Lack of funding, particularly specialized funding and across product life cycle
- Need for pre-seed, gap funding and matching grants for startups
- Insufficient available skilled expertise, entrepreneurs, management experience people
- Critical mass needed to foster interaction amongst local companies, institutions & bolster image of the region to attract talent
- Need more entrepreneurial skills/spirit to encourage organic growth in sector
- High taxes and business unfriendly environment, local and state level issues
- Scarcity of support networks, organizations, professional and informal networks
- Perception, image & brand issues with the region
- Fragmented efforts – overlapping and disparate agendas

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Opportunities:

- UB's focus on 'translational research'. Most successful life science regions have a strong emphasis on commercialization of research. Initially commercialization and startups establish themselves which then attracts larger players either as investors, partners, expansion or buyouts. In the U.S. in 2008 alone, more than 600 companies were formed with Universities. More than 700 new products were introduced through Universities. 70% of companies tend to stay where they were established. This fact is also seen locally where significant life science players such as Greatbatch, IMMCO Diagnostics, Invitrogen, Moog etc. have stayed in the area because of the founder being from the area.
- Roswell's expertise, Oncology related research, drug development is a growing field
- Hauptmann Woodward Institute (HWI) also on 'outward' looking trend
- Proximity to Golden Horseshoe Network in Canada

Threats:

- Global competition
- Very short window of opportunity and oth
- Other regions are marketing themselves along specialties and in a coordinated manner addressing several or all aspects of a relocation, startup, expansion
- Risky sector: capital intensive, time to market is long and risk of failure is high
- Need for long term strategic perspective

6.0 LOCAL LIFE SCIENCE SECTORS

Companies in the region cluster in two sectors of the life science industry, Medical Device manufacturing (30%) and Testing, Research & Medical Laboratories (35%). These are the two smallest sectors nationally with Medical Devices & Equipment making up 24% of the national bioscience workforce and the Research, Testing & Medical Laboratories making up 8% of the national bioscience workforce. The local data is from the Dunn & Bradstreet database while the national numbers are from the 2008 Battelle report for Bioscience Industry Organization (BIO).

Medical Devices is the largest employer locally, but R&D is the fastest growing subsector. Several large medical device companies such as Moog, Greatbatch were founded here and continue to have significant presence locally. Based on numbers from IMPLAN (conducted by BNE), the impact factor for Medical Device companies is 2.5 locally and only 1.8 for R&D companies despite the higher average salaries in the R&D sector. The lower impact factor is explained due to lack of a critical mass in this sector. Most collaborators for the R&D companies tend to be outside the area leading to a lower impact factor. As the sector grows and gains momentum, the impact factor will become higher. Significant benefit is to be gained, particularly in a high paying and complex to enter sector, from the cluster effect of having several companies working on similar or overlapping subsectors.

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The largest sectors by employees though are support services, medical equipment manufacturing and pharmaceutical manufacturing. Research, Testing & Medical Laboratories is not one of the largest employers due to the nature of the companies. Most tend to be small, highly specialized outfits with significantly higher paying jobs and specific workforce profiles. The overall impact factor of this sector is much higher than manufacturing jobs in general. This however depends on the demographic, educational and other factors particular to a region. Significant proportion of the Research, Testing & Medical Laboratories sector is made up of non commercial research organizations such as UB, CUBRC as well as dental laboratories, proto type labs and facilities to test equipment for a variety of industries (dental, medical equipment, orthopedic & prosthetic equipment, surgical appliances etc.).

Local Companies by 4 Digit NAICS

NAICS	Census NAICS Definition	Co. Count	% of companies	# of employees	% of employees
3391	Medical Equipment and Supplies Manufacturing	101	30%	1685	16%
5417	Scientific Research and Development Services	72	22%	732	7%
6215	Medical and Diagnostic Laboratories	36	11%	298	3%
5413	Architectural, Engineering, and Related Services	31	9%	1971	19%
3254	Pharmaceutical and Medicine Manufacturing	24	7%	1601	15%
3251	Basic Chemical Manufacturing	23	7%	637	6%
	Other	47	14%	3422	33%
	Grand Total	334	100%	10346	100%

Local Companies by 6 Digit NAICS

NAICS	NAICS Description	# of companies	%
541712	Research & Development in the Physical, Engineering, & Life Sciences (except Biotechnology)	68	20%
339116	Dental Laboratories	38	11%
621511	Medical Laboratories	36	11%
541380	Testing Laboratories	30	9%
339112	Surgical & Medical Instrument Manufacturing	24	7%
339113	Surgical Appliance & Supplies Manufacturing	24	7%
325188	All Other Basic Inorganic Chemical Manufacturing	16	5%
325412	Pharmaceutical Preparation Manufacturing	15	4%
339114	Dental Equipment & Supplies Manufacturing	11	3%

The high number of R&D companies is a recent upward trend in the area. This is likely to have a continued positive impact due to the higher paying jobs and scope for growth in this subsector. As discussed before, due to the lack of a cluster effect, the impact factor is still low. Since the time to maturation of this subsector is relatively long (10-15years) and the risk factor high, this is a sector that needs considerable time and effort to mature locally. Recommendations for this are made in Phase 2.

The high number of Medical Laboratories includes testing labs such as Qwest. This market grows directly in proportion with population and is much more market driven than by incentives etc. This NAICS has therefore not been included as attractive sectors for BNE Business Development activity.

In the 100 or so interviews conducted, very few R&D companies had location collaborators outside the large academic and research institutions (UB, Roswell and HWI). Medical Device and Dental companies on the other hand tend to interact with the academic and research institutions as well as local companies and are more likely to hire locally trained workforce.

7.0 RECOMMENDATIONS

Based on the existing local life science companies, industry trends, local academic and research institutions assets assessment and plans for growth, two broad sectors will find the region most attractive in the short term. Based on upcoming activity expected in the life sciences sector locally, recommendations are made in two phases.

7.1 Phase I

Phase I includes the immediate and short term recommendations that are aligned with BNE's mission of attracting investments in the area.

The ideal time frame to act on these recommendations is the next 12 to 18 months. Due to the dynamic nature of this industry and the expected developments in the area in the next 12 months, additional and different sectors will become attractive.

7.1.1 Identified Sectors

The four focus sectors are:

NAICS	Description	Examples of Mfgr. Items
339112	Surgical & Medical Instrument Manufacturing	syringes, hypodermic needles, anesthesia apparatus, blood transfusion equipment, catheters, surgical clamps, medical thermometers
339116	Dental Laboratories	dentures, crowns, bridges, orthodontics appliances (customized for individual application)
339113	Surgical Appliance & Supplies Manufacturing	orthopedic devices, prosthetics appliances, surgical dressings, crutches, surgical sutures
339114	Dental Equipment & Supplies Manufacturing	dental chairs, dental instrument delivery systems, dental hand instruments & impression material, dental cements

The sectors identified above are expected to see significant growth in the coming years. The Dental Laboratories (NAICS 339116) is expected to be \$14.5 Billion by 2015 globally. A significant portion of that market is expected to be in the U.S. The Buffalo Niagara region is already home to some of the largest and most respected players in this sector. The other sectors identified above are also expected to see significant growth in the coming years and in these cases too, significant portion of the global market for the products is in the U.S. The two geographic regions identified as potential target areas also have some significant players that are likely to find the region attractive.

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The existing medical devices 'cluster' can be tapped into to foster interaction and development of formal and informal support organizations. This will aid in gaining the kind of critical momentum needed to establish a 'self sustaining' industry. Most medical device companies in the sectors identified above tend to have less than 50 employees which makes it 'easier' to market to and to initiate talks or relocation, expansion, joint ventures etc. Companies in these sectors also tend to benefit from close interaction with large research and practicing institutions. Proximity and access to skilled workforce from Engineering schools and Community Colleges is valued due to the limited mobility of the workforce generally observed in this sector.

Unique regional assets that can be used to develop targeted and customized marketing collateral include:

- Access to incubator space at the Buffalo Niagara Medical Campus (BNMC)
- UB Dental School – one of the top Dental schools and there are only 50 dental schools in the U.S. The UB Dental School also has existing working relationships with large companies locally and elsewhere. This should make the process of initiating working relationships easier.
- UB Dental School's: University Center for Biosurfaces (<http://wings.buffalo.edu/iucb/>)
- Faculty currently working with companies from the UB Dental School
 - Dr. Robert Baier
 - Dr. Frank Scannapieco
 - Dr. Michael Glick
 - Dr. Ann Meyer
- Two of the largest and some of the most respected dental laboratories locally are:
 - Ivoclar Vivadent
 - Great Lakes Othrodontics
- Alfred State Ceramics program
- UB School of Biomedical Engineering
- Responsive workforce training institutions – Companies have worked with local Community Colleges to develop appropriate workforce training programs
- Low operational cost – the average cost of setting up a Dental Laboratory is comparatively (compared to R&D Lab for Drug Discovery for e.g.) is considerably low as is the wage component

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7.1.2 Geographic Focus

Based on analysis conducted and taking into account limited time and financial resources, the geographic recommendations have been limited to two areas. This decision has been made taking into consideration that BNE has existing efforts to foster collaboration in other sectors such as renewable energy, wind power etc. in these regions. The established working relationships within these regions are expected to reduce the time to get appropriate introductions significantly.

The two regions that are most attractive for immediate collaboration are:

1. Greater Toronto area
2. Alsace BioValley

7.1.2.1 Greater Toronto Area

In June of 2002, the Province of Ontario, through the Ministry of Enterprise, Opportunity and Innovation, announced a \$51 million Biotechnology Strategy initiative to attract growth and investment to the province. The goal was to make Ontario one of the most competitive jurisdictions in North America for biotechnology. Under the leadership of McMaster University, the City of Hamilton together with representatives from Halton and Niagara Regions formed the Golden Horseshoe Bio-Innovation Consortium (GHBC). The GHBC was a working group that provided strategic direction and access to resources and knowledge relating to biotechnology and convergent technology.

Since the region is in close proximity to the Buffalo Niagara region, arranging one on one meeting with specific companies listed below will be ideal. In addition, it is also highly recommended to attend events such as the ones listed in the next section.

Companies to contact:

1. Obtura
One of the leaders in the endodontic field. Manufacturer and supplier of dental appliances.
3310 South Service Rd, Burlington ON L7N 3M6
Phone: 888.768.3636
2. Progenic Dental Lab
1040 South Service Road
E. Oakville, ON L6J 2X7 Canada
Phone: 905.842.6173

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3. Sinclair Technical Service
Fastest growing, full service dental supply company in Canada
2462 Sinclair Circle, Burlington ON L7P 3M6
Phone: 905.335.2536
4. RJ Smith Dental Lab
636 Upper James St, Hamilton ON L9C2Z2
Phone: 905.318.8181
5. Straumann Canada Ltd
4145 North Service Road, #303 Burlington ON L7L6A3
Phone: 905.319.2900
6. Ultra Ray Medical Products Inc.
760 Pacific Road, Oakville ON L6L 6M5
Phone 905.338.6857
7. Advance Dental Ceramics
58 Ewen Rd, Hamilton IB K8S 3C5
Phone: 905.526.1021
8. Barthmann Denture Clinic
11 King St., Stoney Creek, ON L8G 1G9
Phone: 905.662.7521
9. Dental Technologies (might be interested in partnering with Dental & Eng. Schools)
900 King St, E. Hamilton ON L8M 1B6
Phone: 905.545.1700
10. Halton Dental Labs
1253 Slivan Forest Dr, Burlington, ON L7M 0B7
Phone: 289.313.0538
11. Joint Solutions Alliance Corp.
975 Fraser Dr., 11B Burlington ON L7L 5K2
Phone: 905.639.7243
12. Mitech Dental Laboratory
5230 South Service Rd, Burlington ON L7L 5K2
Phone: 905.333.0765

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13. Niagara Dental Arts
28 Cherry Street, St. Catherine's, ON L2R 5M6
Phone: 905.682.3525

14. Nu-Dent Laboratory
141 Jones St., Oakville, ON L6L 3E8
Phone: 905.847.6948

15. Henry Schein Arcona Inc
345 Townline Rd, RR 4 Niagara-on-the-Lake ON L0S 1J0
Phone: 905.646.1711

16. Stryker Canada – one of the largest companies on this list
45 Innovation Dr., Hamilton ON L9H 7L8
Phone: 905.690.5700

Marketing Channels to adopt for the Greater Toronto Area:

Due to the geographic proximity of the Canadian (Toronto) market, the recommended approach to marketing is different than the Alsace BioValley. Listed below are key industry associations and organized clusters that it makes sense to advertise in and engage in speaking opportunities.

- Advertise or write article for the Canadian Dental Association (<http://www.cda-adc.ca>)
- Advertise or write articles for the Ontario Dental Association (<http://www.oda.on.ca/>)
- Speak and attend events at McMaster Innovation Park (events listed on website)
- Speak at Toronto Biotechnology Initiative (<http://www.ontbi.org/>)
- Speak and attend events at MaRS (originally stood for Medical and Related Sciences, it is a commercialization focused organization in Toronto)

The key person to contact for further introductions and organizing meetings, attending events at the Golden Horseshoe Network is:

Darlene Homonko, PhD
Executive Director, Golden Horseshoe Biosciences Network
Tel: 905.525.9140 ext. 26609 & Fax: 905.528.3999
Email: homonko@mcmaster.ca

The key person to contact for further introductions and organizing meetings, attending events at the MaRS Discovery Center is:

Allen Gelberg
Director, MaRS Collaboration Centre
Tel: 416.673.8134 & Fax: 416.673.8181
Email: agelberg@marsdd.com

7.1.2.1 Alsace BioValley

<http://www.alsace-biovalley.com/>

Alsace BioValley is a unique project established in the heart of Europe, bringing together Alsace in France, South Baden in Germany and Northwest Switzerland, with as centers Strasbourg, Freiburg and Basel, BioValley was one of the first European initiatives for the promotion and the development of life sciences. It has grown to become one of the leading life sciences regions in the world.

Based on an attractive economic environment and a unique critical mass of leading industries, world class public research and recognized training institutions (initial and continuous) , BioValley has become one of the leading international life sciences clusters. Its development results from thriving interactions between private and public research, training institutions framing their curricula based on industry inputs and a dense network linking big pharma and start-up companies. The European Union has provided a sustained financial support (Interreg Programs) and thus allowed the development of many services, networking initiatives and promotion of regional and international projects in the life sciences.

The region is home to several startups and well established companies in the surgical simulation, imagery, dental and R&D sectors. Incubators such as SEMIA provide an excellent source of continued growth in this industry. There are 600 companies in the region employing more than 50,000 people (including Universities) as well as 11 Life Science Parks and 40 life science institutions.

The key people to contact for further introductions and organizing meetings, attending events are:

Agnes Legoll

Directrice des relations internationales

Alsace BioValley

Parc d'Innovation 9 Bd Gonthier d'Andernach

67400 Illkirch France

+ 33 (0)3 90 40 57 40

agnes.legoll@alsace-biovalley.com

Mona Boyé

Trinational BioValley Matchmaker

Tel: +33 (0)3 90 40 57 42

Fax: +33 (0)3 90 40 30 01

matchmaker@biovalley.com

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Marketing Channels to adopt for the Alsace BioValley Market:

Due to the different nature of the companies, organizations and geographic distance, the recommended marketing approach for the Alsace BioValley is different. Listed below is the methodology and marketing channels recommended.

- Targeted mailing (snail mail and electronic mail) before specific meetings and conferences is highly recommended. The Alsace BioValley has a 'News Relay' service where information is sent out to all their members. This service is available free of charge if you are a member. It is recommended to join the organization to be able to send monthly or quarterly updates about the Buffalo Niagara region.
- Speaking engagements at key locations & meetings listed below
 - Alsace "Stammtischs" (organized meetings with specific companies)
 - Bio-incubators and labs to speak at (or try to organize a joint meeting):
 - SEMIA
 - Technopole Mulhouse
 - Parc d'Innovation d'Illkirch
 - BioTechPark Freiburg
 - Innocel Innovation Centre/Research Park Lörrach
 - Technology Park Offenburg
 - Innovation Centre Allschwil
 - Tech Centre Reinach
 - Business Parc Reinach
 - Technology Center Witterswill
 - EuroMedTech (held in Leipzig in June 2010)
 - Companies from this region are attending AdvaMed in DC in October 2010
- Focused one-on-one follow up meetings following trade shows and conferences

7.1.3 Additional Supplementary Recommendations

In addition to the specific geographic marketing strategies suggested, it will be helpful to take the following actions to make the region more attractive for companies looking to invest, relocate, expand here.

- Make it 'easy' for companies to work with research facilities
- Host conferences in relevant industries and in partnership with local institutions and companies (list provided separately)
- Aid networking within local companies across sectors
 - Establish quarterly Life Science Council meetings with agenda to discuss each company, industry trends, workforce development issues
 - Found an HR Alliance to address work force attraction and hiring issues

Life Science Marketing Strategy for the Buffalo Niagara Enterprise

7.2 Phase II

To be able to attract larger companies with higher visibility, a coordinated effort to have a **'face of life sciences'** in the region will be extremely helpful. All successful life science destinations have a coordinating body that is responsible for the life sciences industry in a region. Ohio has several that are city specific and one that is statewide. Indiana has a statewide effort, as does Massachusetts.

Fostering innovation and entrepreneurial activity is essential for attracting larger companies to a region. Universities and regions can collaborate to develop entrepreneur mentorship programs, entrepreneur in residence programs, business plan competitions and foster inter disciplinary collaboration to encourage startup activity etc.

The Buffalo Niagara region has been identified as a region with 'modest employment' (approx. 2,500 employees and 38% of the total bioscience workforce) in the Research, Testing & Medical Laboratories sector by the 2008 Battelle report. Analysis of local company data from D&B also shows similar statistics. In addition, local company growth trends, translational and commercialization research focus of local institutions as well as industry trends make this an attractive sector for the region to focus on to increase commercialization and startup activity while coordinating attraction of larger players in the sector. As the planned Global Vascular Institute, Clinical Translational Research Center (CTRC), Center for Immunology, Surgical Simulation technology and devices, Photo Dynamic Therapy (PDT), UB's School of BioMedical Engineering, Buffalo Niagara Medical Campus become fully operational, more opportunities to collaborate with specific subsectors will emerge and potentially new NAICS code (Research, Testing & Medical Laboratories: NAICS 541711 – R&D in Biotechnology, NAICS 541712 – R&D in Physical, Engineering, Life Sciences, NAICS 541990 – Professional, Scientific, Technical Services) will emerge for BNE to work with.

8.0 CONCLUSIONS

This report is meant to provide guidelines for implementation of the life sciences marketing strategy for the Buffalo Niagara Enterprise only. There are four sectors identified that are ideally suited to pursue in the short term, based on the current situation. Future growth in the life sciences sector in the region is going to be contingent on some bigger picture and more strategic issues being addressed. The lack of a coordinating body fostering collaboration, ability to access prototyping labs, entrepreneurial assistance, fostering commercialization of research are just some of the larger issues that need to be addressed for the region to become a viable life sciences destination. Recommended next steps and potential for growth are discussed in further detail in the white paper attached.

Two immediate next steps to assist the region and specifically the life sciences sector are:

- Organize a 'face of life sciences' to provide clear leadership and foster collaboration in the industry
- Make it 'easy' for the private sector to work with academic & research institutions

9.0 RESOURCES

1. Interviews – 100+ conducted in person across the industry (including research, academics, entrepreneurs, investors etc.) List provided in excel format
2. Dunn & Bradstreet Regional Data
3. IMPLAN for impact factor calculation
4. “Technology, Talent and Capital: State Biosciences Initiatives 2008”; A Battelle Technology Partnership Practice report prepared for the Biotechnology Industry Organization (BIO), June 2008
5. New York City Bioscience Cluster Industry Snapshot”; New York City Bioscience Initiative & New York City Economic Development Corporation
6. Buffalo Niagara Life Sciences Opportunities and Advantages”; Buffalo Niagara Enterprise
7. Multiple online resources, some prominent ones listed below:
 - i. Kauffman Institute
 - ii. National Venture Capital Association
 - iii. Axcell Partners Papers
 - iv. MedCity News Archives
 - v. FierceBiotech
 - vi. BioEnterprise
 - vii. BioCrossroads
 - viii. BioForward
8. Center of Excellence in Bioinformatics and Life Sciences website
9. “Pharmaceutical Industry Profile 2009”; Pharmaceutical Research and Manufacturers of America (PhRMA), 2009
10. Bureau of Labor Statistics (BLS)
11. National Institute of Health (NIH)
12. Census Bureau

10.0 ALSO INCLUDED

- June 21st Public Presentation
- June 21st Group of 18 & 43x79 Presentation
- June 3rd BNE Board Meeting Presentation
- Ontario Dental Company List
- Toledo, Ohio News Article
- San Francisco News Article
- Ohio, P&G News Article
- Cleveland, Ohio News Article