

# Shuswap High Tech Regional Assessment

Prepared for: The Salmon Arm Economic Development Corporation

Prepared by: The logo for thinktank COMMUNICATIONS features the word "thinktank" in a bold, lowercase, sans-serif font. The "i" in "think" has a red dot, and the "a" in "tank" has a red dot. Below "thinktank" is the word "COMMUNICATIONS" in a smaller, uppercase, sans-serif font.

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## Project Overview

The Shuswap High Tech Regional Assessment follows previous work conducted by Think Tank Communications regarding the Technology labour force in the Shuswap. As Phase 2 of this project, the focus was on a macro assessment of the overall factors relating to technology enterprise development including the labour component, but also identifying other factors necessary for this type of sectorial growth.

The Shuswap's inherent regional advantage is the presence of a handful of dynamic and recognized technology companies that were originally established locally. These companies could potentially represent the "anchors" in a marketing push that promotes high tech development within the region. There are, however, many challenges that exist. *The research suggests that the practical approach will be for the Salmon Arm Economic Development Corporation and its economic partners to focus on developing its technology sector from within, while at the same time leveraging the strong lifestyle factors that may appeal to small companies that are seeking to establish themselves in non-urban centres.*

The objectives identified prior to this study commencing, and addressed in this research included the following:

- Identify the current infrastructure in the Shuswap
- Identify preliminary strengths and weaknesses regarding technology development potential in the Shuswap region
- Qualify and identify technology companies currently operating in the Shuswap and interview them regarding the strengths and weaknesses of operating at their current location
- Determine the size of the existing technology sector in the Shuswap
- Interview companies in other areas of the province and ask them what factors influence their decision to locate where they are
- Conduct a comparative assessment of what is being offered elsewhere, and what is being offered in the Shuswap
- Identify potential partnerships with other organizations and regions across the province
- Build a list of strategies regarding developing the Shuswap's technology sector to optimize development and advancement of this area

- Build a work plan for the different members of the Shuswap's Economic Development community to begin working on enhancing technological development.

## Research Findings

### Analysis Of Technology Development Potential

While the Shuswap possesses important locational advantages, the challenges facing the region in developing a local high tech sector are many and varied. Taking into consideration the perspectives of technology companies presently operating within the region, as well as the experiences and current situation of communities that have a similar economic and demographic profile, these findings offer some background as to what technology companies are looking for when relocating and how the Shuswap measures up to these requirements.

One of the results of the major advances in information technology over the past decade is that communities such as the Shuswap are able to compete even more effectively with larger urban centers. Due to its relatively advanced telecommunications infrastructure, the region has an opportunity to take part in the growing popularity of tele-commuting, distance learning, video conferencing and e-commerce. Additionally, the trend toward outsourcing of jobs by companies is good news for the region. Workers can conduct marketing, communications, research and support services without having to contend with the disadvantages associated with living in a large city.

**The B.C. technology industry is rapidly becoming a central pillar of the B.C. economy. To ensure its continued growth and development a public policy framework must be established that supports the key needs of the industry, highly qualified and talented people, adequate support for the conduct of research and development, and a business environment that supports investment and entrepreneurship.**

**Premier's Technology Council  
First Quarterly Report, 2001**

Improved technology infrastructure has made it possible for more businesses to operate effectively outside the southwest core of the province, as well as increasing the number of self-employed technology workers who are able to live and work in smaller communities. In fact, there are examples of small technology

companies such as Creationz Web Desinz and the Martinez Corporation that have established their operations in the Shuswap for both lifestyle choices and because they have the ability to conduct their business with many of the benefits of operating in an urban centre.

## **Locational Advantages**

In contrast to larger urban centres, the Shuswap offers unique advantages for businesses and individuals looking to relocate or establish their operations. These include lower living costs, a high quality of life and lower crime; an abundance of available commercial and industrial space; and high speed Internet access available throughout the region. Besides the availability of increased choice for broadband connectivity within Salmon Arm and Sicamous, high-speed wireless access is available in rural areas such as Sunnybrae, Tappen, Sorrento, Eagle Bay, Scotch Creek, Shuswap Lake Estates, Cedar Heights, and Angelmont. As these areas are located outside of the service area of cable and ADSL, it is a definite advantage for existing companies (Big Foot Homes), as well as technology professionals that are interested in moving to the region.

The presence of flagship businesses like CAE, Digital Rez and Forsite Forest Management Consultants offer companies that are engaged in site selection an example of the success that is possible within the Shuswap. *Representatives from several technology firms stated that more had to be done to promote the homegrown success of these and other dynamic technology companies both within and outside of the region.*

Besides a modern transportation and telecommunications infrastructure, the primary advantage that the Shuswap has to offer is quality of life factors. According to several technology company representatives, there are an increasing number of high tech workers who are tired of the long commutes, density of living and very expensive living costs associated with large urban areas. These companies regularly receive resumes from technology professionals exploring career opportunities in the region. Whether concentrating on recruiting additional high tech industry to the region or developing a dynamic sector from within, company representatives stressed that the Shuswap needs to aggressively address the lifestyle issues that are important to technology companies and the decision to locate or relocate into smaller communities. The consensus of these company representatives was that a strategy that highlighted the region's outdoor beauty and quality-of-life advantages to individuals and companies in larger urban centres could help spur interest in the Shuswap as well as encourage other technology professionals and freelance workers to move to the community.

While most towns and smaller cities throughout British Columbia have their own unique advantages in this regard, the Shuswap's central geographic location

between Vancouver and Calgary, closeness to the Okanagan and its hi-tech development, as well as being in close proximity to the Kelowna Airport offers additional incentives to choosing the Shuswap as a operational location.

## Challenges and Opportunities

Although the Shuswap does have many positive advantages, it is true that the communities examined in this study have many of these same attributes. In fact, many communities across North America have comparable advantages. Global and national competition for the recruitment of technology-based companies is becoming increasingly fierce. Nearly all communities want more high-tech companies and they are constantly struggling with how best to create and promote their particular regions as the next Silicon Valley. At least four ingredients are required to attract high tech companies:

- An educated workforce and strong educational facilities (which almost always includes a university presence);
- A positive business climate;
- Availability of venture capital;
- A solid transportation and communications infrastructure.

The range and complexity of incentives offered to entice businesses to locate, maintain, or expand operations continues to grow annually. Unfortunately, compared to US or even other Canadian provinces, communities in British Columbia are limited in what they can offer in terms of incentives to prospective technology companies to locate to their respective region.

Although the City of Cranbrook has been aggressively targeting technology companies to relocate to the region for the past three years, community leaders have by and large been met with disappointing results. This is seen to be due to fact that a “shot-gun” approach to recruitment is ineffective and time-consuming. Furthermore, the reality is that regional authorities in British Columbia are limited in what they can offer technology companies in terms of incentive packages. Representatives from Cranbrook spoke of losing out on an opportunity to recruit a call centre to the region because of the fact that Glace Bay, Nova Scotia, was able to offer the company over \$8000 per employee for training under a federal program designed to assist the community’s ability to cope with recent job losses in the fishing industry. Unable to compete with these types of incentive programs, regions like the East Kootenays and the Shuswap are forced to incorporate creative components into their recruitment strategies.

Examples of success, however, can be found. Nelson’s largest high tech employer spoke of the importance that the city officials had played in facilitating the

company's relocation from Prince George. Although it was stated that there were drawbacks in choosing a location like Nelson over an urban centre, the availability of affordable land - and the fact that city officials focused their energies in making the transition as smooth as possible - made the decision mutually beneficial to both the company and the city.

The Shuswap's challenges include:

- The absence of a community based (venture) capital pool
- Limited support from traditional financial institutions
- A relatively small pool of qualified information technology workers
- An absence of a well-established technology sector
- A strong university presence
- Suitable R&D facilities
- A local technology incubation centre

These challenges are compounded by the fact that British Columbia communities like the Shuswap have limited flexibility when offering incentives for companies to consider relocating, make it extremely challenging to recruit technology companies to the region.

Most regions do not depend exclusively on luring outside businesses to their communities, but all include those efforts in their economic development strategies. Sometimes those efforts are misguided. As previously stated, Cranbrook have been aggressively attempting to recruit technology companies to the community for the past three years. While they have been successful in making contact with various representatives from technology companies, and have brought entire management teams to the city in an effort to establish open lines of communication, these efforts have been costly and ultimately unsuccessful.

The reality is that regions like the Kootenays and the Shuswap are most likely not on the radar screen for most high-tech companies looking for a place to locate. A high percentage of technology companies want to be where the action is or where they perceive the action to be, so that they can be on top of the latest ideas and have better access to skilled workers.

The challenge for the Shuswap is to focus on creating a regional context that cultivates and accelerates the growth of homegrown technology companies. The

research team spoke with individuals who had established a local technology business in the Shuswap in the past year that was ultimately unable to survive. Lack of business and marketing knowledge was cited as the primary reason for the company's abrupt failure. While the company possessed the technical knowledge, skills and industry experience of its founders, these individuals did not have support and access to the mentorship that may have enabled them to get off the ground.

The Salmon Arm Economic Development Corporation has taken important steps in order to foster technology-based entrepreneurship by establishing the Business Development Program. These assets place the region in good position for accelerated entrepreneurial growth through ongoing support.

**The focus of economic development efforts in Cranbrook is shifting away from exclusively recruiting external companies to providing business support services for local entrepreneurs.**

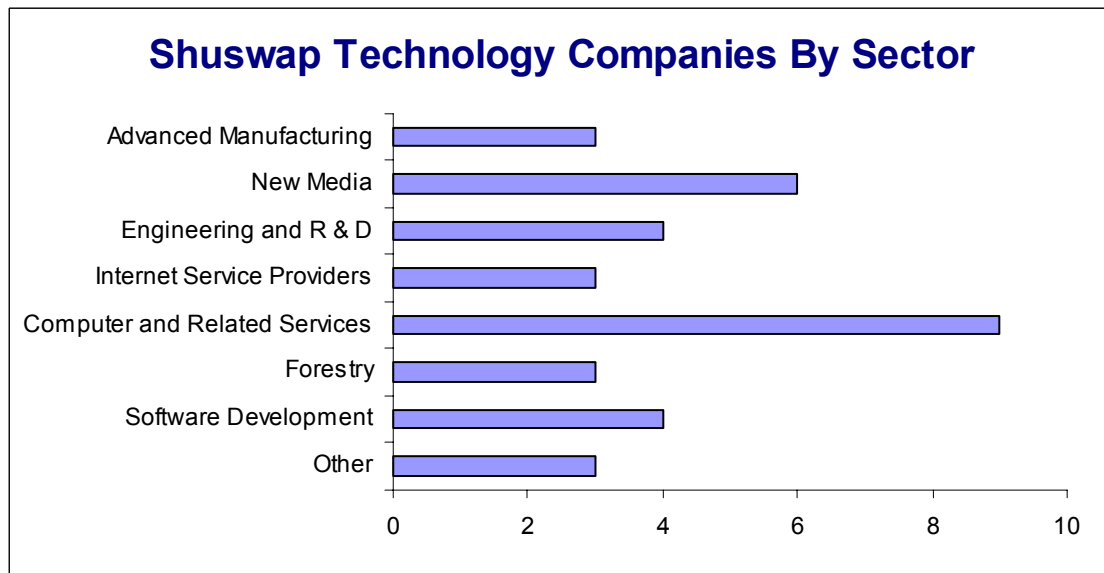
**It is thought that by focusing on a much more subtle set of investments: creating a solid labor pool, building a critical mass and supporting entrepreneurs in the region who will put down roots there if they can begin to build a company, will all add to development focused on internal dynamics as opposed to external recruitment**

## Technology Companies Currently Operating In The Shuswap

In the Shuswap, a total of 35 companies were interviewed during the course of this project. Technology companies that operate within the region were previously identified as part of *The Shuswap Technology Labour Pool Assessment*. These companies were contacted and interviewed a second time in order to assess any strengths and weakness of operating at their current location, as well as to gauge the level of interest regarding the formation a local technology association. Representatives from these companies were also asked for their perspective on what direction the Shuswap as a region ought to pursue with regards to developing a local high tech sector, and the role that the Economic Development Corporation could play in the process.

The Shuswap technology companies that were interviewed during the course of this project represent the following sectors:

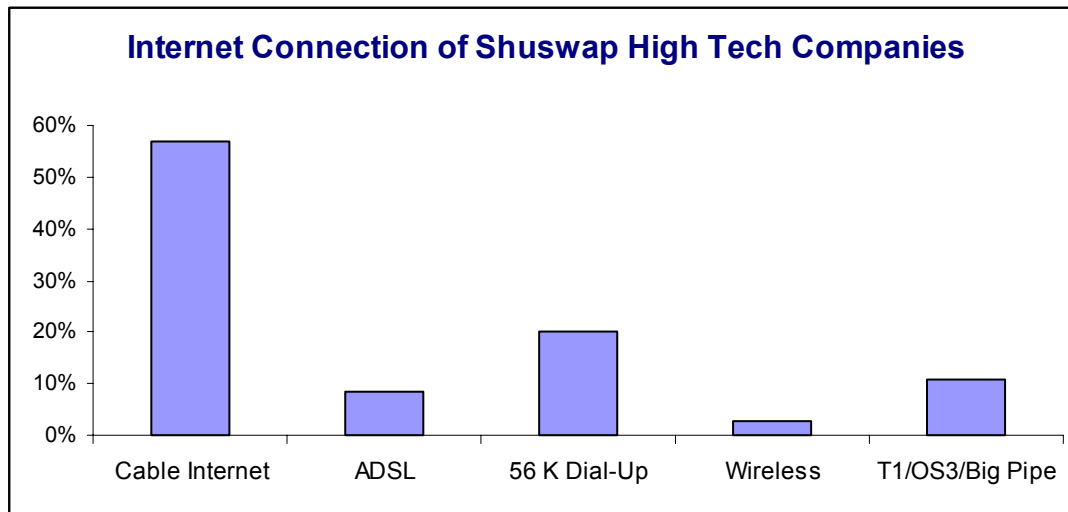
- Computer and Related Services
- Internet Service Providers
- Software Development
- New Media/Web Design
- Advanced Manufacturing
- Engineering/R&D
- Forestry Management
- Drafting and Design
- Digital Mapping
- Printing Services



Of the 35 companies interviewed, 33 stated that their businesses were originally established in the Shuswap. Lifestyle factors and previous ties to the community were stated as the primary reason that companies are established and remain in the Shuswap.

## Internet Connectivity

All of the companies interviewed expressed that the current broadband access in the Shuswap met their needs, while several stated that they hoped to tap into additional bandwidth in the near future. Access to higher increased bandwidth in Salmon Arm was not seen to be a problem. T1 broadband connections are available and are priced competitively with other regions of the province at approximately \$1400/month. The majority of the companies interviewed were connected to the Internet through high-speed cable access.



## Perspectives on the Possible Formation of a Local Technology Association

While the majority of the companies interviewed expressed an interest in the formation of a local association of technology professionals, there was a concern that such a varied group of companies with such disparate interests would find it difficult to function in a practical manner. It was generally felt that any local association would be most effective if it was structured as informally as possible. Alternative options that were offered included forming a local chapter of “Silicon Vineyard” - thereby tapping into the existing resources and minimizing the cost of funding a separate organization - or having the Salmon Arm Economic Development Corporation organize occasional events and seminars that would be of benefit and interest to the local high tech community.

The following information highlights the most common responses from technology company representatives as to what any potential association should concern itself with:

- A forum that would allow networking opportunities while showcasing the success of local companies. One company representative saw the possibility of using forums such as this as a potential venue to access investment and partnerships for larger projects that small companies are unable to take-on by themselves.
- Events to educate existing business owners in the Shuswap of the advantages of implementing technology solutions in their business. Companies involved in computer services and New Media overwhelmingly state that existing businesses in the Shuswap have not done enough to take advantage of the technological resources that exist within the region.
- Organizing training seminars and courses that would be of interest to local companies and freelance workers – particularly in the areas of website and graphic design.
- Guest speakers from technology companies and organizations from outside of the region to discuss general issues relating to technology or scheduled as industry specific forums.

### **Recent developments since the first survey of technology companies was conducted in November 2001:**

**- A computer services company reported that it is likely to permanently close its doors in the next few months due to the depressed state of the local economy.**

**- A Web Development company has since moved from being a home-based business to acquiring a central downtown location, and has plans to aggressively expand and increase the number of employees in the immediate future.**

**- Technology companies directly dependent upon the general state of the forestry industry stated that the current economic uncertainty made it practically impossible to effectively plan ahead or re-hire employees that had been recently laid-off.**

## **Perceived Disadvantages of Local Technology Companies**

- The most common disadvantages that high-tech companies cited were the difficulties in finding specialized technical labour and the inability of the region to produce its own pool of local high tech talent. When necessary, the cost of having to look outside of the region to fill these positions was substantial. Concerns relating to opportunities for spousal employment further compounded the time and expense required to fill these positions. Previous management personnel from WaveRider, the wireless data communications company that originated in Salmon Arm, stated that the lack of access to a university and engineering graduates was a major reason that the company moved its Research and Development facilities from Salmon Arm to Calgary.
- The absence of local airport service was seen be a serious inconvenience for 7 of the 35 companies (20%) of the companies responding. Last minute travel to Vancouver, northern British Columbia and Alberta were areas in which companies noted the inconvenience, time and cost particularly during the winter months.
- Access to capital was a serious concern frequently mentioned by company representatives. Traditional lending institutions in the region were seen to be generally slow and unresponsive. Companies stated that they would like to see the creation of a community based capital fund. According to the technology companies interviewed, finding alternative access to capital was seen to be crucial in order to fund projects including expansion, and the development of new products. Representatives from smaller New Media companies stated that access to additional capital would allow them to bid on larger contracts, as it would enable them to cover the related up-front costs associated with the project (for example, a high volume printing run). It was felt that the additional contracts could conceivably lead to generating additional technology related employment in the region.
- There is an absence of specialized professional support in the areas of trademark and copyright law within the Shuswap. Technology companies that require this type of support generally engage the professional services of firms in Kelowna, Vancouver and Toronto. One company representative stated that having access to others who have gone through similar experiences in obtaining patents, trademarks and product licensing would be a valuable resource.

## **Advantages Cited by Local Technology Companies**

Technology companies interviewed overwhelmingly stated that the primary advantage of operating in the Shuswap is regions quality of life advantages. Citing locational advantages in terms of being centrally located in the province, with easy access to all

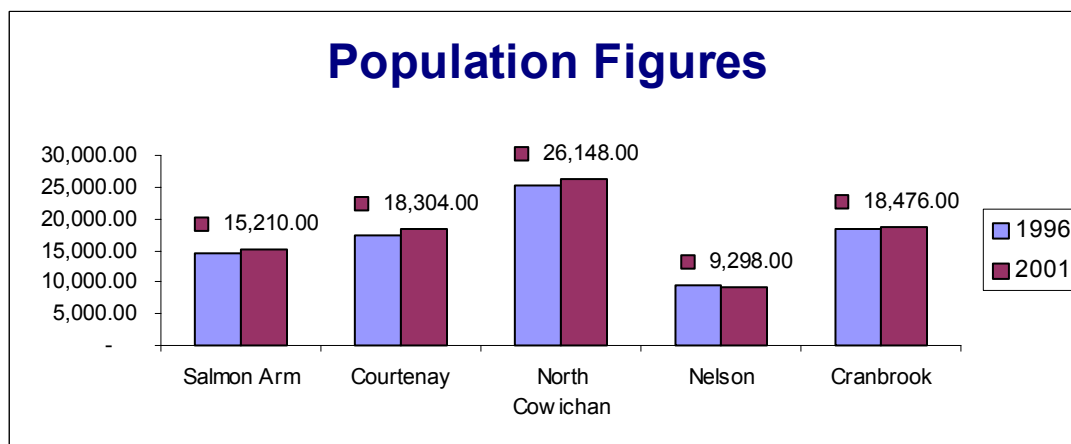
areas of the province, was also cited as an advantage for those companies conducting business within the province.

## Comparative Regional Assessment of Technology Development

These findings are based upon interviews with technology companies, related stakeholders and organizations responsible for economic development in the Shuswap, North Cowichan, Courtenay, Nelson and Cranbrook. As well as having a similar economic make-up as the Shuswap, these communities were selected because they have demonstrated a desire to diversify their economic base by establishing and supporting a local high tech sector. Individuals and organizations that are responsible for attracting technology companies to (and/or developing a high tech sector from within) their respective regions were candid in discussing their experiences with the research team. Although the individual approach varies considerably, these regions have begun to position themselves as attractive locations for prospective technology companies interested in relocating their operations.

### Population Trends

Of the five communities, only Nelson experienced negative population growth between 1996 and 2001 (-3.0%). While the population figures in the remaining communities grew at a rate below the provincial average, Salmon Arm had the largest net population increase (3.7%), North Cowichan was second (3.3%), followed by Cranbrook (0.8%).



<sup>1</sup> Statistics Canada 2001 Census

Research conducted within these regions indicated that Cranbrook was the only community that has undertaken formal research with regards to the development of a local high tech sector. The City of Nelson is exploring the possibility of engaging a consulting firm that specializes in technology site selection in an attempt to raise the profile of the region to US technology companies looking to relocate their operations, while community officials are presently developing strategies for technology development in both North Cowichan and Courtenay. Public consultation and/or informal meetings with a diverse cross-section of local stakeholders are influencing these processes in each community.

Cranbrook is undertaking strategic initiatives to improve the ability of individuals with technology skill-sets to find meaningful employment, while at the same improving the internal operations and technological efficiency of local businesses. The East Kootenay region has in recent years had one of the highest rates of unemployment in British Columbia. As a result, there has been a drain of talented people out of the region due to lack of opportunities. The development of the Rocky Mountain Innovation Centre, a regional technology incubator, was a response to the threat that the East Kootenay region was at risk of losing economically by failing to provide adequate business support to new technological businesses. As such, the incubator was formed in order to facilitate the development and growth of high tech in the East Kootenay region.

In exchange for marketing, finance and administrative support, prospective companies offer a percentage of the company's equity that will recover the initial investment when the company is well established. Due to recent funding cuts, the centre has had to devise strategies in which to become self-sustaining. As a result, an initiative to establish a web-enabled regional call centre within the building is currently being implemented. The call centre will offer local businesses an opportunity to market and offer customer service through technologies currently not available in the area. Revenue generated from the call centre will be used to sustain the incubator in offering its marketing services

Courtenay has had its high tech strategy guided by public consultation and a local steering committee since the fall of 2000. A subsequent development of these seminars was the establishment of a privately funded business incubator (with in-kind support from the City of Courtenay) that offers reduced rent and fibre optic connectivity to small technology start-ups. At the present time, all 14 offices in the incubation centre are occupied. Companies occupying office space stressed the importance of the resource, and stated that the reduced overhead cost-savings made possible by the centre allowed them to invest their time and creative energy into the development of their business. In addition to the incubation centre, there are plans to develop a high-tech park that is hoped will serve to attract high tech

companies to the area. The technology association continues to meet informally and serve as a sounding board for new initiatives.

Representatives from the Cowichan Valley Economic Development Commission state that they are in the midst of developing a high tech strategy for the region. The Cowichan Region is a partner in LinxBC, a marketing initiative to attract 'Call Centre Operations' to member communities in British Columbia. The LinxBC marketing efforts are focused on US based call centre out-sourcing companies that provide in-bound customer service, order taking, technical help desk support, and financial services.

The Mid Island Science and Technology Council (MISTIC) is the organization that is responsible for the development of knowledge-based industries on central and north Vancouver Island, and has provided valuable guidance to the North Cowichan as it moves forward with plans to expand the role of technology in the region. Rather than focus on formalizing a process by which local high-tech players meet to discuss their common challenges and vision for the future, MISTIC has recommended that the region pursue a more flexible approach. In an attempt to put together a blueprint for future high tech development in the region, local stakeholders and representatives from industry were brought together in a social setting to discuss the current reality and plans for the future. MISTIC provided a modest amount of funds for food and beverages, and it was thought that these types of events was a valuable starting point for the community as it seeks to move forward in developing its high-tech sector. Representatives from MISTIC stressed the importance that smaller communities ensure that these types of initiatives be kept as streamlined, informal and flexible as possible during its early stages in order to maximize participation.

The city of Nelson is exploring possibilities and strategies to aggressively expand the technology sector in the region. Representatives from Nelson feel that the city's quality of life factor will be among its most valuable assets in attracting both high tech companies and workers to the region. Companies report having recently received numerous requests for employment from high-tech employees living in urban centers. The Shuswap compares most directly to the city of Nelson, which has a flagship technology company that is one of the regions largest employers. In addition, there is a large number of small New Media companies operating in the area that are attracted to the lifestyle factors that small communities are able to offers. Community representatives noted that Nelson had been disproportionately affected by the recent cutbacks in government layoffs, and there is an increased awareness of ensuring that the local economy moves towards greater diversification.

## Technology Companies in Similar Communities

In the course of this research, Think Tank Communications spoke to technology companies that included Internet Service Providers, computer and related services, technology consultants, New Media, as well as both an advanced manufacturing and a data storage company that are presently operating in similar communities across British Columbia. The focus of the research was to gauge the strengths and weaknesses of operating at their current location, and identify the challenges and opportunities that existed for their companies operating in smaller towns and communities.

With the exception of only one company, all of these companies were small operations whose principals were either originally from the region or else moved to take advantage of the advantageous costs of initially establishing a business in these regions.

Lack of access to a reliable airport was a concern of a small minority of the companies interviewed, primarily the larger ones, in Cranbrook and Nelson. However, a technology consultant new to the Cowichan spoke of the challenges in terms of access to venture capital, which is centered in Vancouver, for companies looking to get established financially. Further compounding the problem of a lack of available capital locally, is the fact that many of these companies are looking for a modest amount of financing that, while critical to their early development, are not of a significant amount in the eyes of venture capitalists in Vancouver. We were told that these investors rarely look at deals for less than \$500,000, while many of these new companies were looking for a smaller amount of start-up capital.

## Skilled Labour and High Tech Training

Technology companies operating in the communities examined during the course of this research are typically small operations that are able to meet their labour requirements. Although all of these communities have a college presence, predominantly in the form of local satellite campuses of larger colleges, the curriculum was seen as being limited in terms of what it could offer local companies.

Region	Institution	Type	Related Training in Technology
Shuswap	Okanagan University College	Satellite Campus	<ul style="list-style-type: none"> <li>▪ GIS/Digital Mapping</li> <li>▪ Introduction to Programmable Logic Controls Certificate</li> </ul>
North Cowichan	Malaspina University College	Satellite Campus	<ul style="list-style-type: none"> <li>▪ None</li> </ul>
Courtenay	North Island College	Satellite Campus	<ul style="list-style-type: none"> <li>▪ Two year diploma in Computer Science</li> </ul>
Nelson	Selkirk College	Satellite Campus	<ul style="list-style-type: none"> <li>▪ Diploma in Computer Information Systems (Castlegar)</li> <li>▪ Diploma in Multimedia Production &amp; Design</li> </ul>
Cranbrook	College of the Rockies	Main Campus	<ul style="list-style-type: none"> <li>▪ Computer Support Technician Diploma</li> </ul>

The majority of these colleges offer courses leading to diplomas in careers as computer support technicians, yet there is a notable absence of specific engineering, electronics, and related disciplines. While local satellite campuses are enthusiastic to customize workforce training and work alongside industry, they are often unable to provide the training programs required by local business due to budget constraints. Nelson's largest technology employer stated that the local college discontinued its electronics program three years ago, thereby cutting off a dependable supply of local talent to the company. Consequently, the company is required to search outside of the region in order to meet its operational needs.

## Venture Capital

The knowledge and ability of how to finance a startup enterprise is one of the most important aspects an entrepreneur has to address during a company's initial stages. Without adequate financing, a new high tech company is likely to fail before it can get off the ground – and existing companies are unable to expand and develop new products as quickly as they might like. The proportional share of Canadian venture capital investment attracted by BC business has declined from the previous year.<sup>2</sup>

**“There’s now \$20.1 billion of venture capital formally managed in this country, and less than a billion of it is domiciled in B.C. We have 13 to 14 per cent of the population and less than five per cent of the venture capital in the country, and it continues to get worse.”**

**Harry Jakko  
CEO of Discovery Capital  
Corporation**

Although many company representatives spoke of the necessity of establishing additional ways in which to access capital on a community level, often times they are not aware of existing funding programs that may be available to them. Organizations such as the regional Science and Technology Councils offer this support to their members, and it was one of the primary concerns raised by companies interviewed in this report. The absence of venture capital for technology businesses is not a problem unique to Salmon Arm. Of the communities examined, only Cranbrook had plans to develop a local community investment fund that would be used as an investment pool for local businesses.

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<sup>2</sup> BC STATS and the Ministry of Competition, Science and Enterprise, *2001 Edition - Input Indicators of the British Columbia High Technology Sector*, August 2001.

## Commercial Space and Development

Community representatives and realtors in all five communities stated that there is an abundance of wired commercial space available for small to mid-sized companies. Representatives from Nelson and Cranbrook report that there is a limited amount of industrial land suitable for new development. This was partially due to the individual geography of these regions, as well as the fact that a large percentage of the available land is part of the agricultural and forestry reserve. Neither the Shuswap, nor any of the communities examined, have an up-to-date database of available commercial space. It is believed that the Multiple Listing Service (MLS) lists only 30% of available commercial and industrial properties.

Only 1 of the 35 companies interviewed in the Shuswap reported that they were unable to find suitable and affordable commercial space suitable for their needs. As a result, the company chose to purchase and customize a facility specific to its needs. According to the most recent statistics, the vacancy rate of commercial office space in Salmon Arm is thought to be approximately 5 per cent, with an average cost of approximately \$9 to \$12 per square foot.<sup>3</sup> This is comparable with the communities examined in this study that reported having surplus vacant commercial property available, with an average cost ranging from \$6 to \$14 per square foot.

There does exist some partnering and sharing of resources and talent among several technology companies in the Shuswap. Three local companies (Graphic Design, Web Development and Commercial Printer) share a building, resources and talent. It is a mutually beneficial arrangement for all parties as they are able to reduce costs, share resources and refer business to one other. The success of this particular relationship offers a small but important benefit of the potential “clustering effect”, and why technology incubation centres can be so valuable.

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<sup>3</sup> District of Salmon Arm, 2000

## Telecommunications

The Shuswap, North Cowichan, Courtenay, Nelson and Cranbrook are on an equal footing when it comes to the technology infrastructure present in their respective regions. Companies interviewed expressed an overall satisfaction with the level of access to the Internet with the majority of them companies surveyed having high-speed connections. Compared to communities of a similar size, Salmon Arm has access to the modern infrastructure necessary to compete in the new economy. All companies interviewed during the course of this study report that they are satisfied with their Internet connection and that it is able to meet their needs.

The Shuswap Region has multiple high-speed possibilities for businesses that include ADSL, Cable, High-Speed Wireless, Satellite and Dial-up. Technology companies state they are well served with the infrastructure that is in place. The communities of Salmon Arm, North Cowichan, Courtenay, Nelson and Cranbrook have modern telecommunications infrastructure in place. Cable Internet, ADSL, T1 and OS3 lines are available in all regions.

Although the cost of T1 circuits to the Internet in British Columbia communities varies considerably (\$1400-\$10,820), all communities examined as part of this study can expect to pay approximately \$1400 for T1 service based on a one-year contract. While access to high-speed Internet in both Nelson and Cranbrook is comparable to the Shuswap and North Cowichan, rural areas in the region are generally underserved. As a result, a plan has been developed for a new telecommunications systems that will connect all towns in the region to a fibre-optic network offering high-speed, fixed wireless to homes and businesses. The Columbia Basin Trust and the Kootenay Area Science Council are leading this initiative.<sup>4</sup>

ADSL was recently introduced to Salmon Arm, and is currently available for residents and businesses located within the downtown core, with plans to expand the service to outlying areas within the next six months.

Internet Connection	Service Provider	Service Area
Cable Broadband	<ul style="list-style-type: none"> <li>▪ Sunwave</li> <li>▪ Mascon Communications</li> </ul>	<ul style="list-style-type: none"> <li>▪ Salmon Arm, Sicamous</li> </ul>
ADSL	<ul style="list-style-type: none"> <li>▪ Telus</li> </ul>	<ul style="list-style-type: none"> <li>▪ Salmon Arm</li> </ul>
Dial-up	<ul style="list-style-type: none"> <li>▪ Shuswap Internet</li> </ul>	<ul style="list-style-type: none"> <li>▪ Available</li> </ul>

<sup>4</sup> Premier's Technology Council, The Digital Divide in British Columbia, 2001

	<b>Junction</b> <ul style="list-style-type: none"><li>▪ <b>JetStream</b></li><li>▪ <b>Telus</b></li></ul>	<b>throughout the region</b>
<b>High-Speed Wireless</b>	<ul style="list-style-type: none"><li>▪ <b>Airspeed (a division of Mascon Communication)</b></li><li>▪ <b>JetStream</b></li></ul>	<ul style="list-style-type: none"><li>▪ <b>Salmon Arm, Sunnybrae, Tappen, Sorrento, Eagle Bay, Shuswap Lake Estates</b></li></ul>

An advantage that Salmon Arm has is the availability of high-speed wireless broadband access for companies outside of the town centre. Airspeed is a Salmon Arm based company, specializing in high-speed wireless Internet for rural communities using point-to-point and point-to-multipoint wireless access products. The availability of this service has provided several manufacturing companies with a competitive advantage that would not be available to businesses located outside the areas of conventional high-speed access in similar communities.

## Research and Development

The absence of research facilities and a strong university presence in the Shuswap region limits the Research & Development (R&D) that is possible in a larger urban center. Business sector performance of research and development has also lagged, and as in last year's report, the ratio of research and development performance by business to provincial GDP was over twice as large in Quebec and Ontario as in BC.<sup>5</sup>

Smaller innovative companies noted the high risk in developing new technology products. The difficulty of raising additional funds from private financial institutions for expansion and development was a common problem. Technology companies in the Shuswap, Cowichan and Nelson conducted their R&D in-house without the support or partnership with universities or technology incubators.

The absence of a local degree-granting university is a major challenge for companies when attempting to recruit technology companies to the Shuswap. Previous management of one of the more dynamic companies that was originally established in the region reported that the shortage of highly specialized personnel, particularly engineers, was one of the chief factors in this firm choosing to relocate its operations to Calgary and Toronto.

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<sup>5</sup> BC STATS and the Ministry of Competition, Science and Enterprise, *2001 Edition - Input Indicators of the British Columbia High Technology Sector*, August 2001.

## Business Support Systems

Besides organizations like the regional Science and Technology Councils, which are responsible for promoting and assisting the development of knowledge-based industries within their respective regions. Although their specific mandate may vary, they can be generally said to offer technology companies support and information on business planning, financing, available funding programs and networking opportunities.

Community	Organizations Involved in High Tech Development
Shuswap	<ul style="list-style-type: none"> <li>▪ Okanagan Science and Technology Council, Salmon Arm Economic Development Corporation, Community Futures</li> </ul>
North Cowichan	<ul style="list-style-type: none"> <li>▪ Cowichan Valley Economic Development Association; Community Futures</li> </ul>
Courtenay	<ul style="list-style-type: none"> <li>▪ Comox Valley Economic Development Society, Comox Valley Technology Council; Community Futures</li> </ul>
Nelson	<ul style="list-style-type: none"> <li>▪ Kootenay Association for Science and Technology (KAST); Nelson &amp; Area Economic Development Corporation; Columbia Basin Trust</li> </ul>
Cranbrook	<ul style="list-style-type: none"> <li>▪ Science &amp; Technology Association of the Rockies (STAR); The Rocky Mountain Innovation Centre; Columbia Basin Trust</li> </ul>

Although there are regional associations that are concerned with high tech development in each of these communities, there is an absence of technology associations led by industry operating on a local level that would benefit new and existing technology companies by providing them with a forum in which to work with one another on collaborative projects. As a result, any networking and collaboration that takes place happens on an informal, word-of-mouth basis. Stakeholders from these communities, with the exception of Courtenay, state that the small size and variety of technology companies in these communities have not made the formation of such an association feasible at this point. North Cowichan has begun the process of experimenting with an informal association in an attempt to gauge interest.

As mentioned previously, none of the communities examined had such an organization, although informal attempts have been to bring together those who are interested in the development of a high tech sector in Cowichan, Courtenay

and Cranbrook. Rather than focus on creating a formal organization within these communities, MISTIC strongly recommended that if the Shuswap was to form some type of organization for industry and technology professionals, it be done in an informal manner.

There are many different types of models for community based technology incubators and examples of what has been successful in the communities of Cranbrook and Courtenay may prove useful to the Shuswap. Community leaders have realized that new start-ups need access to marketing support, assistance with business plans, and lowered overhead costs so as they are able to concentrate on establishing their businesses. These communities have found creative ways in which to offer this support to local companies looking to establish themselves within the high-tech sector.

## Executive Summary

In January 2002, Think Tank Communications was commissioned by the Salmon Arm Economic Development Corporation to assess the feasibility of developing a high-tech sector in the region. Based upon the analysis of the data collected, the research team designed an appropriate action plan and implementation schedule to encourage the development of a technological sector from within, as well as submitting ideas as to how to market the region as a desirable location for technology companies that are considering relocating.

In the course of the project, 35 companies that were identified during the first phase of this project (*The Shuswap Technology Labour Pool Assessment*) were interviewed as to what they perceive to be the strengths and weaknesses of operating at their current location. These companies shared their perspective on the challenges and advantages of being located in the Shuswap, as well as their opinions regarding the possible formation of a local technology association.

The research team also visited and interviewed stakeholders and technology companies in communities that have a similar economic and demographic make-up as the Shuswap. North Cowichan, Courtenay, Nelson and Cranbrook were selected to complete the comparative analysis portion of the project. Companies were queried in order to understand the factors that influenced them to establish their operations at their current location, while each of these communities were assessed in terms of the development, history and support systems of their respective high tech sectors.

The overall objectives of this study were to identify opportunities within the Shuswap and to build strategies that could capitalize on its advantages relating to high tech development. The research indicates that the high tech sector that presently exists in the Shuswap is comparable to that of communities across British Columbia in terms of size and infrastructure. Stakeholders involved in the development of high tech in North Cowichan, Courtenay, Nelson and Cranbrook stated that although has not been any research that had been performed to gauge the size of the local high tech community, it was felt that there were approximately 5-30 companies in each community. These communities are similar in that they do not have a local investment pool that can be used to support new and existing technology companies (although Cranbrook is looking into establishing one

at the present time), a local degree granting post-secondary institution, or a limited labour pool from which to produce its own talent,

It is the desire of the Salmon Arm Economic Development Corporation, and its economic partners, that this research be used to identify opportunities within the Shuswap with regards to technology development. This paper will provide an overview of the findings documented during this study.