Pulse on Alberta's ICT Industry

2009 Environment Scan of Alberta's Small & Medium ICT Manufacturers

December 2009

Produced by the Alberta ICT Council

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The Alberta ICT Council recently completed its first survey of companies in Alberta's Information and Communications Technology (ICT) sector. The survey was designed to assess the capabilities of Alberta-based companies involved with developing and selling ICT-based products and services. The survey involved only small and medium enterprise (SME) organizations. The survey excluded large integrators, equipment resellers, placement agencies, and companies using ICT to support their internal infrastructure. Data was collected through an online survey initiated in late November and completed on December 31, 2009.

Our findings are summarized in the attached report. While some outcomes were expected, some interesting trends emerged from the data; the most notable is the low involvement of university and trades schools as sources of innovation. A second discovery is that many of the surveyed companies were unaware of the industry associations and business development organizations that support Alberta's ICT sector.

Read through the results and develop your own thoughts. If you represent an ICT company – how do you compare? If you represent a business development group – how are your activities aligned to the challenges and opportunities facing Alberta's ICT industry?

The results of this environmental scan will be used by the Alberta ICT Council as it works to coordinate programs and events that support our ICT Sector. We invite your input on the survey results, their potential meaning, and ideas to strengthen the ICT Sector. Together we can build "Alberta's ICT powerhouse" into an internationally recognized sector.

Sincerely,

Patrick Binns

Executive Director
Alberta ICT Council
www.AlbertaICT.ca

The Alberta ICT Council is an industry-led not-for-profit organization. Council activities include coordinating industry stakeholders and aligning sector resources to enable effective product commercialization. The Council works at both the company and sector levels. At the company level, it supports entrepreneurs as they develop, commercialize, and market their products; at the sector level, the council works to create an environment where companies have access to inputs and markets for their products.

1 Objectives

The Alberta ICT Council conducted the 2009 Environment Scan of Alberta's Small & Medium ICT Manufacturers to develop information that can be used as the council develops its programs and events. Additionally, the process of conducting the survey is expected to increase awareness of the council's role within the industry and to demonstrate our ability to first listen and second to lead activities that address the identified opportunities and barriers. Results of this environmental scan will be used as a baseline to compare growth within the sector and assess the impact of council activities over the years to come.

In future years the Alberta ICT council expects to broaden the scope of this scan by including a wider sample of companies that represent the various sub-sectors within Alberta's ICT sector. The results of the survey will become an important component of the council's annual State of the Industry Report.

This report is not intended to be a static review of the state of the industry; rather, it is designed to provide insight into the needs and activities of the companies working in Alberta's ICT sector.

1.1 Survey Methodology

This environment scan was funded as part of the Alberta ICT Council's program budget through a grant provided by Alberta Advanced Education and Technology (AET). The survey and its objectives were developed by the council independently. Two other surveys, conducted at the same time, were coordinated through joint activities between the Alberta ICT Council, AET, and TRLabs. The survey questions were developed in consultation with AET and TRLabs; sample survey questions were collected from recent surveys conducted by AET, Digital Alberta and the Saskatchewan Advanced Technology Association (SATA).

The final set of questions was designed to discover insight into how ICT companies are developing and marketing their products. Questions were grouped into the following categories: Contact information, Company Information, Products in Development, Products on the Market, Company Development, and Sector Knowledge. The survey contained both quantitative and qualitative questions to capture comparative and subjective data. The final survey questions are attached as Appendix A.

Questionnaires were distributed to approximately 350 companies through an email invitation. Companies were identified through various means including association memberships and event mailing lists. The survey invitation was also published on the Digital Solutions Alliance website. Sixty-three responses were collected between November 15th and December 31st, 2009.

As components of the survey data are confidential, results are reported through aggregation and commentary.

2 Survey Results

The survey intake process was closed on Dec 31, 2009. In total, there were 63 respondents to the survey. Summarized results to each of the questions are included in the following sub-sections. To improve readability, the order of the results, relative to the actual questionnaire, has been changed. Questions from the survey are listing in Appendix A.

2.1 Company Information

Company Overview

Companies interviewed ranges in size from 1 person to 165 employees; the average size was 20. The majority of companies were based in the greater Edmonton and Calgary regions. Two non-Canadian companies with operations in Alberta responded.

Primary Subsectors

Involvement in core ICT subsectors was profiled by asking companies their 3 primary areas of business activity. It was noted that some companies indicated more than three areas of business activity indicating their involvement in multiple sectors.

Software	Hardware	Network & ISP	Wireless Portable Devices	Digital Media Simulation	Digital Media Gaming	Geomatics	Consulting	Integration	Retailer	Other
65.1%	20.6%	12.7%	30.2%	9.5%	14.3%	12.7%	57.1%	23.8%	11.1%	22.2%

Types of Products

The Types of Products question was designed to identify general markets that have been targeted by Alberta's ICT companies. The categories were designed to separate between consumer and business markets, and within the business markets, to identify manufacturing, communications, and industrial solutions.

Consumer Products	Productivity	Manufacturing	Communications & Network	Components	Services	Infrastructure	Industrial	Other
22.2%	49.2%	15.9%	34.9%	7.9%	39.7%	22.2%	39.7%	20.6%

Vertical Markets

Vertical markets identified included a number of healthcare and eHealth related products and services followed by consumer products, productivity tools, industrial systems, oil and gas, communications & portable solutions. Healthcare and eHealth related services were dominant with 16 companies indicating activities in the healthcare market.

2.2 Products in Development

Of the 63 respondents 85% were involved in product development. One company reported their product development expenditures were 100% of their budget. The average product development expenditure was 39%. Products under development ranged from component manufacturing, digital media, software services, network and infrastructure, and industrial solutions. In the category of “Other”, products mentioned were: tool linking in the beef industry, transportation, consumer internet, blood and plasma processing, taking products to market, automotive, training and heating.

Primary Activities

The Primary Activities question groups development activities by stages in the product innovation cycle. The graph indicates heavy weighting on early-stage development which is expected due to efforts required to get a “first-release” ICT product ready for market.

Product Features	Core Tech	Product Commercialization	Beta & Pilot Releases	Product Optimization	Secondary Releases	Other
87.0%	64.8%	83.3%	33.3%	40.7%	38.9%	11.1%

Primary Sources of Innovation

Identifying the primary sources of innovation is important as it is the root for product development in the ICT sector. The survey results (check all that apply) indicated a heavy dependency on ideas from founders, staff, and existing customers. This is expected, what was not expected was the low involvement of university and trade school research. The category of “Other” indicated sources from IP searches, industry collaboration, consumer market research and industry trends.

Founder or Staff	Friend or Colleague	Existing Customer	Industry Publication	Competitor	University Research	Trade School Research	Other
98.1%	7.4%	48.1%	20.4%	24.1%	11.1%	3.7%	3.7%

Collaboration

26% of companies indicated they were working with an academic partner, 41% were partnered with or working with another company to develop a product or service. These outcomes indicate the aptitude to collaborate even though sources of innovation were not originated from the universities. The types of partnering and the levels of activity were not identified in the survey.

Primary Sources of Funding

The primary sources of funding (multi-select) indicated that Founder capital, grants, and debt were major sources of funding. While there is a lot of talk about Angel and Venture capital, the number of companies involved in this source of funding is low. This may be a function of access Angel and Venture funding, a propensity to avoid it, or a company’s readiness for external capital.

Founder	Friends	Grants	Debt	Angel	Venture	Syndication	IPO
79.6%	22.2%	35.2%	24.1%	11.1%	7.4%	1.9%	1.9%

Companies applying for the Federal SR&ED tax credit program totaled 67%, 30% did not, 2% were unaware of the program. Note that late-stage commercialization activities generally do not qualify for SR&ED tax credits.

Time to Market

Product launch dates ranged from Dec 2009 to an undetermined month in 2011. The average launch date was approximately mid-year 2010. On average, companies indicated it would take 16 months to reach break evens sales after their product launch.

Product Development Challenges

Identified challenges during product development included: access to financial resources, access to qualified and affordable staff, hurdles with new technologies, access to research sources, product testing and regulatory approvals, waiting for grant approvals, sales expertise, market knowledge of emerging products, and distractions (non-development activities to sustain the business).

2.3 Products on the Market

Of the companies surveyed 89% had one or more products currently available for sale in one of more global regions. Revenues from outside of Alberta constitute an average of 59.2%. While the global reach of the surveyed companies looks impressive, analysis of the data indicates a potential of over reporting capabilities to sell products in regions outside of North America. Reporting market reach may be based on “It can be sold in ____ if a customer want it”, verses “We have built a presence in ____ through our active marketing and sales activities.” Further, the survey did not ask for revenues by global region.

Global Market Reach

Global market reach indicates where companies are ready to sell their products, it doe not necessarily mean companies are actively promoting their products through local activities within these global regions.

Global By Internet	Local	Alberta	Western Canada	Eastern Canada	North America	Europe	Central & South America	Asia & Pacific	Other
38.7%	38.7%	58.1%	46.8%	35.5%	61.3%	27.4%	16.1%	24.2%	8.1%

Active Investment in Global Regions

This question was designed to identify which global regions companies were actively investing in to develop awareness and sales for their products and services.

Alberta	Western Canada	Eastern Canada	North America	Europe	Central & South America	Asia & Pacific	Other
50.0%	45.2%	33.9%	58.1%	21.0%	17.7%	19.4%	12.9%

Use of Distributors

To identify how companies took their products and services to market, they were asked about selling their products and services through distributors.

No, We sell directly	No, We are not Ready	No, We are looking for a distributor	Yes, We are looking for other distributors	Yes, The relationship is great
41.9%	16.1%	6.5%	32.3%	4.8%

Challenges Selling Product & Services

Identified challenges selling ICT-based products and services included: hiring sales staff, local competition, educating markets on new products, developing clear branding messages, reaching the buyer, high costs of creating regional offices, of sales against short term revenues, certification, financing, having to be an evangelist for new technology, location, price-point, long sales cycles, and advertising reach.

2.4 Company Development (Commercialization)

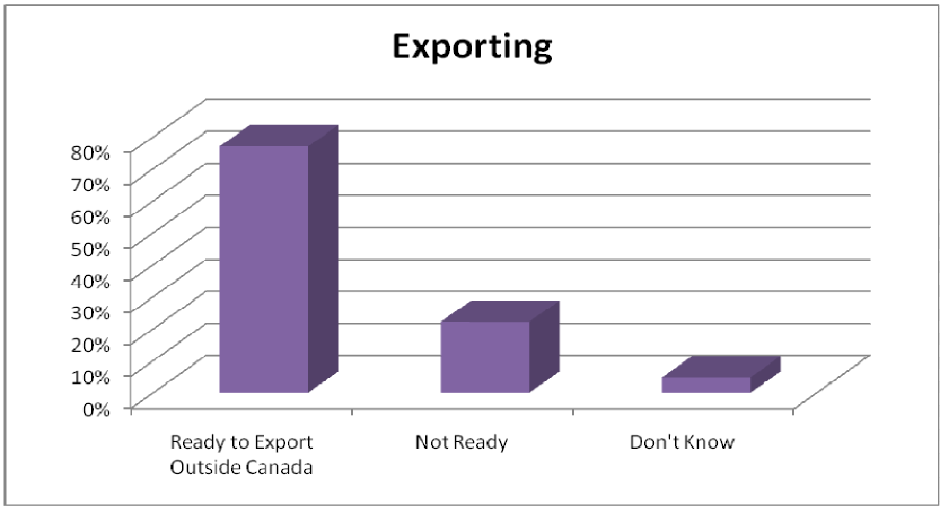
This group of questions focused on organization capabilities related to selling and supporting products. It includes a quick assessment of spending on sales, marketing, customer support, and staff training as a percentage of overall spending:

Sales Expenditures	Marketing Expenditures	Customer Support	Staff Training
14.0%	7.3%	13.6%	6.2%

The highest percentage of sales expenditures was 80%, the lowest was 1%. While spending 80% of total expenditures on sales is high, the majority of companies spent less than 10% on sales and less than 5% on marketing activities. Companies that indicated high sales and marketing spending percentages were likely in the late-commercialization phase where costs associated with product development may be lower. The low investments in sales and marketing of companies in the early-commercialization phase may be problematic.

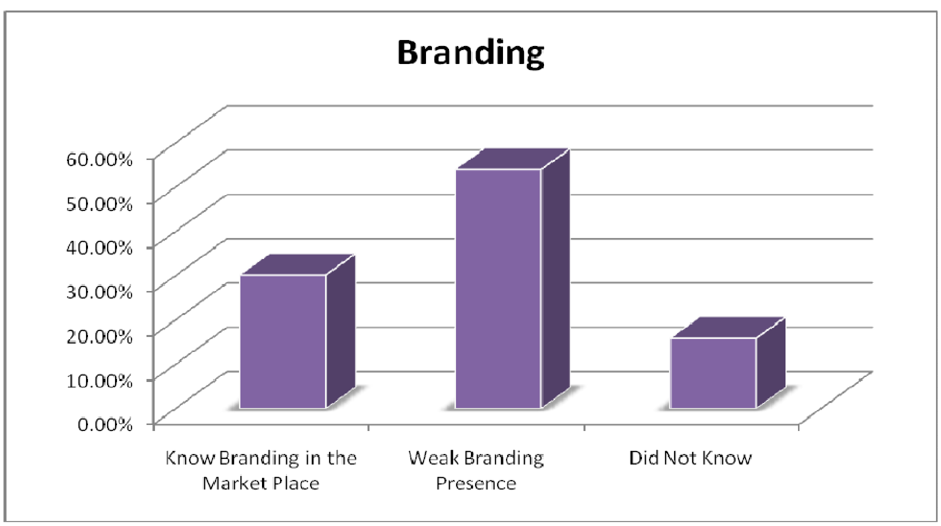
Export Readiness

To gain insight into regional sales activities, surveyed companies were asked to indicate their export readiness: 73% of respondents indicated they were ready to export outside of Canada while 22.2% were not and 4.8% were unsure.



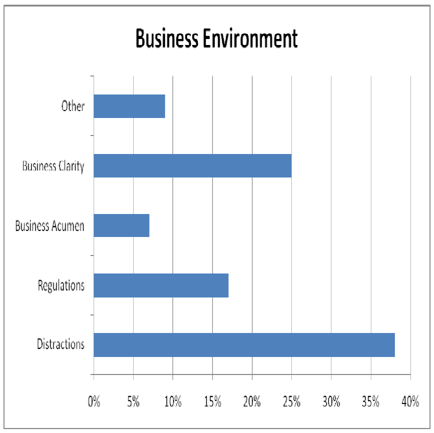
Product Branding

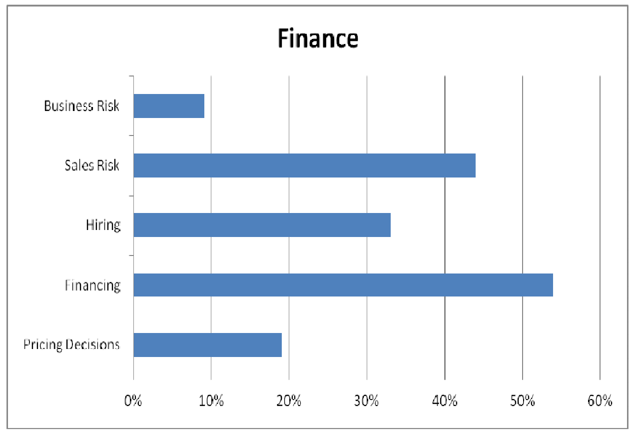
With respect to perceived brand recognition: 30.2% surveyed felt their brand was sufficiently recognized while 54% felt their brand presence was weak and 15.9% of respondents were not sure of how their markets respond to their branding activities.

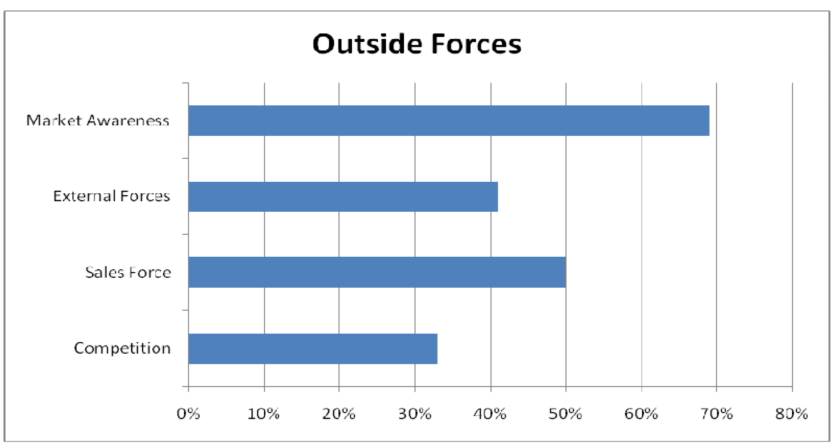


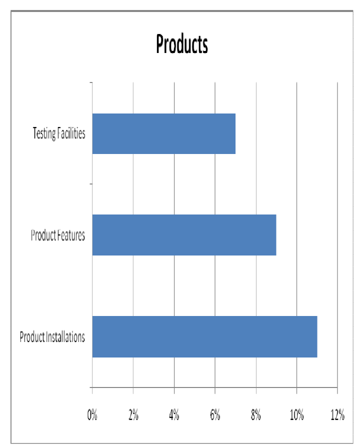
Barriers

The four charts below outline potential barriers to growth for ICT companies. Companies were asked to indicate significant barriers they were facing in a “multi-select” question. The chart bars indicate the percentage of respondents that indicated each barrier was significant to their growth.









While access to financing is often cited as a major barrier to growth, the charts above indicate that market awareness, distractions, and access to sales resources are also significant. Risks of selling products, e.g. investing in an advertising campaign that fails to generate sales, and timeliness of business decisions may also impact growth capabilities.

Business Forecast

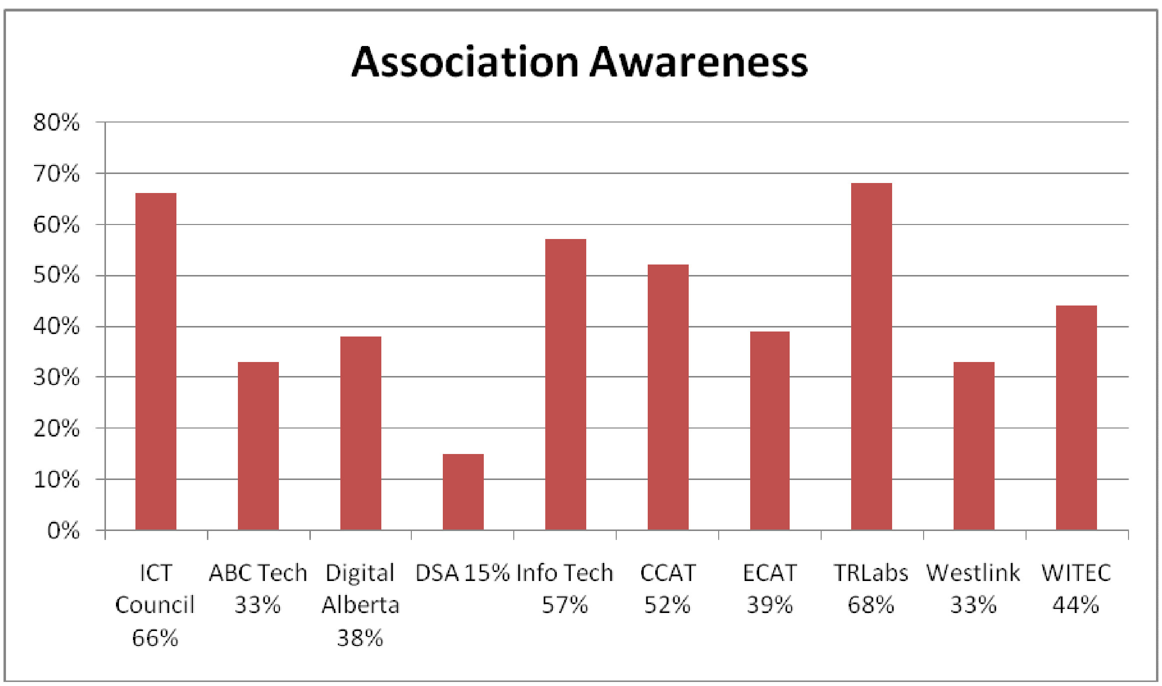
To assess current sentiment at the company level, we asked companies whether they agreed or disagreed to the following questions:

Your Situation	Business activities won't change	Product revenues will increase	We plan to hire new staff	We find it difficult to hire staff	We are active in Alberta's ICT community
Agree	67.7%	77.4%	38.7%	38.7%	56.5%
Disagree	14.5%	6.5%	43.5%	43.5%	29.0%
Don't Know	19.4%	17.7%	16.1%	16.1%	14.5%

2.5 Sector Knowledge

Sector Knowledge

Companies were asked to identify their awareness of the industry associations supporting Alberta's ICT sector. As indicated by the graph below, awareness of several of these organizations is low. While this may be related to separate communities in Edmonton and Calgary, low levels of awareness may indicate a need for increased branding activity.



Opportunities to Strengthen the Sector

The survey asked companies to identify how industry associations could can better support companies within Alberta's ICT Sector. The following comments were selected from the survey responses:

Better collaboration on communication and commercialization activities

More tax breaks; more lobbying to government for increased grants and financing

More programs to support marketing and sales

More direct cash to SME's and less to associations

Better information dissemination to SME's from industry associations and government

Focus on marketing

Cross mentoring

Reduce the number of ICT groups

Advice on global strategies

Have the newly formed Alberta Innovates hold a public meeting for the ICT sector and indicate what they plan to do for the ICT sector

Dissolve 60% of the above associations

Offer web-based remote events

Split the associations into Federal and Provincial and focus on funding and one-stop shopping for ICT SME's

Better communication between the associations

Buy Alberta or buy Canada policies established

Better communication by the associations to the ICT SME's

Within the above comments there are three that dominated:

1. Better coordination between the ICT associations and, including the government, would be seen as a positive way of supporting ICT companies in Alberta. To be more specific there were several respondents that felt there were too many associations representing the ICT sector resulting in duplicated services. Amalgamation would reduce duplication and result in stronger associations capable of delivering greater value to the sector.

2. Marketing and sales is a pain point for many ICT companies in the province. Suggestions were for associations to develop assistance programs specific to targeting marketing and sales that supported mentoring and advice related to building a brand and developing sales channels.

3. The biggest challenge for most companies is finding and hiring qualified and affordable staff. While it was unclear whether this was due to available resources or the ability to successfully hire and retain staff.

In the area of sales, specific challenges faced by a number of respondents working in foreign markets included: getting the information to the global market, customer education, not having a local point of contact, finding experienced and ethical business partners abroad, and competing with large multi-national companies.

There was also a strong message related to delays between product development and commercialization. These delays may be related to existing funding programs that support development activities and not commercialization activities. While there is significant *technical* risk associated with developing a product, there is also significant *business* risk when commercializing a product. Funding to mitigate commercialization risks is required, especially as companies are generally financially “strapped” by large development investments and are cautious spending their last monies on sales and marketing programs that are not fully understood, or have marginal methods to measure successful outcomes.

Companies working in Alberta’s ICT Sector are faced with integration challenges associated with a sector that lacks “unity”. While there may be too many industry associations representing the various ICT sub-sectors, Alberta’s ICT sector lacks sector-level representation – e.g. a voice that can showcase the capabilities within the sector that has the attention of ICT stakeholders in and beyond Alberta’s borders. While some respondents indicated that there might be too many ICT associations, they were clear that support was needed and that is would best be served through better coordination between the associations; they asserted that Alberta’s ICT associations need to be stronger in developing policies and business enablers that support companies working in a unified sector that is internationally recognized.

3 Appendix A: Survey Questions

Part 1: Core Contact Information (optional)

- Name of your company: Text 100
- Company website: Text 100
- Primary contact (name): Text 50
- Contact email address: Text 75
- Contact phone number: Text 20
- City of head office: Text 30
- Approximate number of staff based in Alberta (FTE) Int 1-99,999

Part 2: Company Information

- Company Overview: (cut & paste) Text 800
- Primary Sub-Sector(s) of your business: (Rank 1 (most significant), 2, and 3, etc only if applicable)
  - Software products Int 1-9
  - Electronic devices (hardware) Int 1-9
  - Network & ISP services including data centre management Int 1-9
  - Wireless devices and/or portal applications Int 1-9
  - Digital media: Simulation and online learning systems Int 1-9
  - Digital media: Gaming & entertainment Int 1-9
  - Geomatics and mapping solutions Int 1-9
  - Consulting and custom services Int 1-9
  - Retailer, wholesaler, or value-added reseller (VAR) Int 1-9
  - Other Text 40
- Types of products and services: (Rank 1 (most significant), 2, and 3, etc only if applicable)
  - Consumer products Int 1-9
  - Business productivity tools Int 1-9
  - Manufacturing solutions (e.g. control systems) Int 1-9
  - Communications & networking technologies Int 1-9
  - Primary components used by other ICT products Int 1-9
  - Integration services and consulting Int 1-9
  - Infrastructure services (IT managed services) Int 1-9
  - Industry solutions (vertical markets) (please specify) Int 1-9 & Text 40
  - Other type of product/service Text 40
- Vertical Markets Text 40
- Additional information about your company Text 800

Part 3: Products in Development

- Is your company developing one or more new ICT products? Y/N
- What percentage of annual expenditures are directed to product development? Percentage
- What are your primary development activities? (rank first three 1, 2, 3)
  - Developing product features (technical focus)
  - Building core technologies (primary research)
  - Product commercialization (business focus)
  - Beta or pilot releases
  - Commercialization, optimization, or hardening
  - Secondary releases of existing products
  - Other
- What are your primary sources of innovation: (Check all that apply)
  - Founder(s) or internal staff Check Box
  - Friend or colleague Check Box
  - Existing customer Check Box
  - Industry publication, magazine, newspaper, report, or similar Check Box
  - Competing product already on the market Check Box
  - University research (spinoff) Check Box
  - College or trade school research (spinoff) Check Box
  - Other (please specify) Text 200
- Other sources of Innovation Text 40
- Are you working/partnered with a university/college to develop your product? Y/N
- Are you working/partnered with another company to develop your product? Y/N
- Primary sources of funding for product development? (please check only primary sources)
  - Founder investment Check box
  - Friends and family Check box
  - Government support (grants, etc) Check box
  - Debt financing Check box
  - Angel financing Check box
  - Venture capital Check box
  - Private offering (syndication) Check box
  - Initial Public offering (IPO) Check box
- Has your company ever applied for SR&ED tax credits (CCRA)? Y/N
- When do you expect to launch your product? Date YYYY/MM
- How many months do you estimate will it take to reach break-even sales? Date YYYY/MM
- What challenges have you experienced during development? Text 500

Part 4: Products on the Market

- Does your company have one or more products/services available for sale? Y/N
- What is your current market reach? (Check all that apply)
  - Internet-direct (Global) Check Box
  - Local Check Box
  - Alberta Check Box
  - Western Canada Check Box
  - Eastern Canada Check Box
  - North America Check Box
  - Europe Check Box
  - Central & South America Check Box
  - Asia/Pacific Check Box
  - Other Check Box
- Do you sell your products through one or more distributors/business partners?
  - No, we sell our products directly Radio Button
  - No, we would like to but are not ready Radio Button
  - No, we are currently looking for a distributor Radio Button
  - Yes, and we are looking for other distributors Radio Button
  - Yes, the relationship is working great Radio Button
- Approximately what percentage of your revenue comes from outside of Alberta?
  Int 1-100
- Are you actively investing to expand your market reach? (check areas of active investment) Y/N
  - Alberta Check Box
  - Western Canada Check Box
  - Eastern Canada Check Box
  - North America Check Box
  - Europe Check Box
  - Central & South America Check Box
  - Asia/Pacific Check Box
  - Other Text 40
- What challenges have you experienced when selling your products? Text 500

Part 5: Company Development (Commercialization)

- Approximately what portion of annual expenditures do you spend on sales activities? Percentage
- Approximately what portion of annual expenditures do you spend on marketing and promotion? Percentage
- Approximately what portion of annual expenditures do you spend on customer support?: Percentage
- Approximately what portion of annual expenditures do you spend on staff training? Percentage
- Are you ready to export outside of Canada (or are exporting already?) Y/N
- Is your brand sufficiently recognized in your target markets? Y/N
- What barriers to growth are your facing?: (check up to five options)
  - Business clarity (business direction and/or business plan quality) Check Box
  - Market awareness and/or product adoption (lack of sales) Check Box
  - Pricing and/or negotiating deals (suppliers or distributors) Check Box
  - External decisions (e.g. time for customers to close a deal) Check Box
  - Strong competition Check Box
  - Cost/risk of sales & marketing activities Check Box
  - Ability to hire reasonably-priced staff Check Box
  - Time/ effort to install products and train users Check Box
  - Limited product features or technical stability Check Box
  - Availability of development & test facilities Check Box
  - Management capabilities (business acumen) Check Box
  - Acceptance of business risks Check Box
  - Available financing Check Box
  - Distractions (non-strategic activities) Check Box
  - Regulatory approvals Check Box
  - Other (please specify) Text 400
- Other Barriers to growth Text 800
- Your Situation (agree/Disagree/Don't Know for each)
  - Our business activities won't change much over the next 12 months
  - Our product revenues will increase significantly over the next 12 months
  - We plan to hire additional staff within the next 12 months
  - We find it difficult to hire staff due to limited availability of qualified candidates
  - Our company is an active part of Alberta's ICT community

Part 6: Sector Knowledge

- Are you aware of the following ICT industry associations?
  - Alberta ICT Council? — Check Box
  - Alberta Council of Technologies (ABC Tech) — Check Box
  - Digital Alberta — Check Box
  - Digital Solutions Alliance — Check Box
  - InfoTech / Banff Venture Forum — Check Box
  - Calgary Council for Advanced Technology (CCAT) — Check Box
  - Edmonton Council for Advanced Technology (ECAT) — Check Box
  - TRLabs — Check Box
  - Westlink Innovation Network — Check Box
  - WITEC — Check Box
- How many sector-led programs/events have you attended in the last 12 months? — Int 1-20
- Do you have suggestions on how these groups can better support companies like yours working within Alberta's ICT sector — Text 500

Thank you for your time to complete this survey. Any questions or concerns about this survey can be addressed to the Alberta ICT Council c/o Patrick Binns (Patrick.Binns@abinsi.ca)