



Economic analysis of the 2023 INVENTURE\$ Conference

Alberta Innovates

May 2024



FINAL REPORT

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Executive summary

Study context and scope

INVENTURE\$ is a Conference staged by Alberta Innovates (AI) that brings together over 3,000 venture capitalists, angel investors, start-ups, entrepreneurs and thought leaders in Calgary. A key objective of the Conference is to discover and share the latest in innovation and research and provide a platform for capital access and deal-making. The 2023 edition of the Conference took place between May 31 and June 2, 2023.

PricewaterhouseCoopers LLP (we, or us) were commissioned by AI to conduct an economic footprint study to help to better understand the overall impact associated with INVENTURE\$ 2023 (the Conference, or the Event). Our analysis included the following four impact channels, which were informed by a survey of Conference attendees and expenditure data provided by AI:

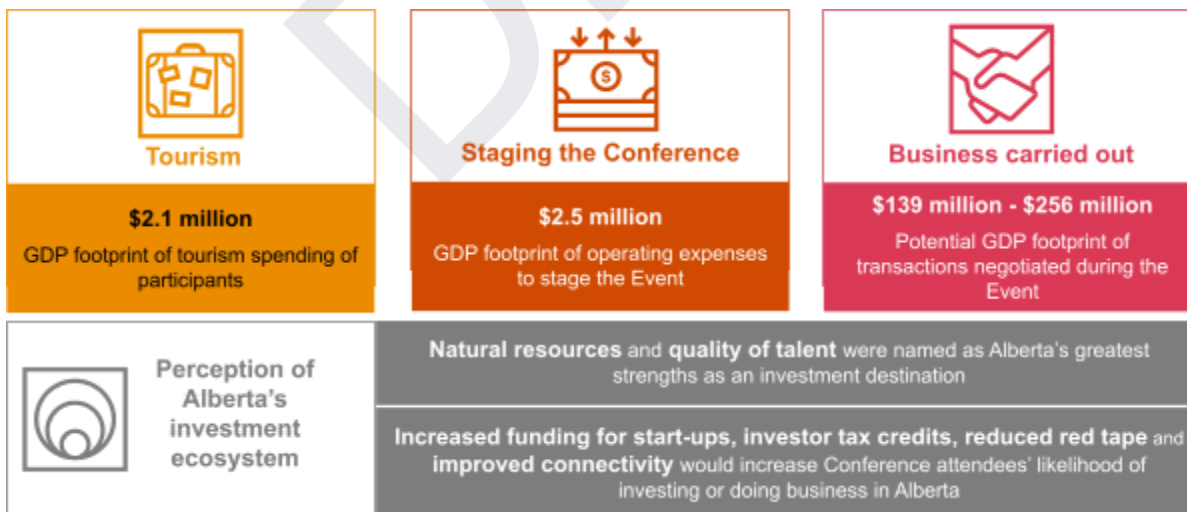
1. **Impact of the Conference on tourism spending:** Calculating the economic footprint of spending by Conference participants who came to Calgary because of the 2023 Conference.
2. **Impact of staging the Conference:** Calculating the economic footprint associated with staging the Event through AI's operating expenditures.
3. **Value of business carried out:** Calculating the economic footprint of sales and investment transactions negotiated by attendees during or as a result of the Conference.
4. **Perception of Alberta as an investment destination:** How Conference attendees view Alberta as an investment destination and factors that would increase their likelihood of doing business or investing in Alberta.

Our study of the economic footprint of the INVENTURE\$ 2023 Conference is based on two participant surveys undertaken at different times:

- The Original Survey, designed to capture information immediately after the Conference. This was carried out between June and July 2023. A total of 385 Conference attendees responded.
- The Follow-Up Survey, designed to reconnect with participants nine months after the Event to both validate some of the initial survey findings and to understand the long-term impacts of the Conference. The Follow-Up Survey was conducted between March and April 2024, and there were a total of 163 responses.¹

The following snapshot illustrates the key findings from this research, which are expanded upon below.

Snapshot of key Conference impacts



Source: PwC surveys (Original Survey n=385, Follow-up Survey n=136) and analysis

¹ Note that the two surveys were not conducted on a longitudinal basis, so different individuals and organizations from the population of attendees will have responded.

Tourism impacts

We calculated the Alberta tourism sector GDP footprint produced and facilitated by the Conference at **\$2.1 million**. This footprint was the result of the INVENTURE\$ 2023 Conference encouraging visitors from outside the province and/or Alberta residents living outside Calgary to visit. This incremental GDP, along with incremental jobs, labour income and tax revenue, are driven by Conference attendees who pay to stay in hotels or other types of accommodations in order to attend the Conference, as well as additional spending impacts on food, souvenirs, entertainment, and/or transportation.²

This spending, therefore, provides incremental benefits to Calgary's tourism economy, as well as to the broader Alberta economy, by driving spending that would not otherwise have occurred in the absence of the Conference. Furthermore, 60% of respondents stated that their attendance at the Conference increased the likelihood that they will return to Calgary or Alberta as a tourist in the future, which is not captured in the figure above.

Value of staging the Conference

We calculated that staging the Conference has an economic footprint of **\$2.5 million**.³ AI spent money on local suppliers (facilities and support services, traveller accommodation, catering, entertainment) in order to stage the Conference, which supported economic activity in Alberta and generated GDP, job creation, labour income and tax revenue for the province.

Business carried out

By far, the most critical impact of the INVENTURE\$ Conference is bringing entrepreneurs, business people and investors together, encouraging positive connections and ultimately catalyzing new business activity. According to our Original Survey, almost one in three participants (35%) taking part in INVENTURE\$ 2023 carried out new business activity that resulted or would result in revenues or investments due to their participation in the Event. Original survey respondents reported that over **\$113 million** of sales and investments were either agreed upon or under discussion at the Conference.

Based on assumptions about the likelihood that deals in discussion will reach fruition, and inferring impacts across attendees who did not respond to the surveys, we estimate the total value of business carried out at the Conference could eventually reach between **\$213 million to \$400 million**. Factoring in the location of these deals, this could support **\$139 million to \$256 million** in GDP footprint in Alberta. These ranges were calculated based on the deals reported by Conference participants in the original and Follow-Up Surveys.

Perception of Alberta as an investment destination

Surveyed Conference attendees were asked about their perception of Alberta as an investment destination, both with respect to its strengths and what changes would significantly increase the likelihood of investing or doing business in the province. Respondents indicated that **natural resources, quality of talent and access to research and intellectual property** are the province's top strengths as an investment destination. When asked what changes may increase the likelihood of doing business in Alberta, multiple respondents listed **increased start-up investment support, preferential tax credits for investors and reduced red tape** as factors that would make the province a more attractive destination for investment. In addition, several attendees noted that **improved flight and transit connectivity** between Edmonton and Calgary, across the province and with the rest of the country would increase the likelihood of doing business in Alberta.

Study limitations

The most significant result from our research is the estimated impact of business transactions negotiated at the Conference. This relies on inferring the value of deals reported in our survey across the entire population of the Conference's participants, along with assumptions about the share of deals under negotiation that will successfully be concluded.

² We recognize that this analysis operates under the assumption that all tourism spending by Alberta residents as a result of the Conference is incremental to spending that would have naturally occurred within the province. Hence, it should be noted that, where attendees come from elsewhere in the province, there may be some reductions in economic activity outside of Calgary (e.g. through expenditure on food or transportation) that is not accounted for here.

³ The estimated economic footprint from staging the Conference has been revised up slightly from \$2.3m in the September 2023 publication of this report as a result of updated and more complete set of Conference spending data provided by Alberta Innovates.

While this inference approach is commonly used when analyzing the results from surveys, it is important to highlight several key assumptions underpinning it, including:⁴

- That there is no sampling error in the survey responses. Therefore, survey respondents represent a random sample of the population and do not overrepresent or underrepresent certain groups. Given the limited information about the population characteristics, we have not been able to perform a detailed test of this assumption.⁵
- That there is no coverage error in the survey responses (i.e. it was sent to all Conference attendees and did not miss any groups). Given that the survey was sent to all people who registered for the Conference, we are reasonably confident that any coverage error is low.

We also undertook several checks on the reasonableness of the results from this question, including a comparison of the reported deal values to typical deal values published in other independent research such as the PwC Moneytree Venture Capital report and data from Statistics Canada. This comparison showed that the largest deals reported by survey respondents were generally in line with the average Venture Capital deal values for Alberta.⁶

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⁴ Note the key assumption we have employed in this estimate is that the deals reported by the survey respondents can be generalized across the whole population. Therefore, those not answering the survey were assumed to have conducted the same level of transactions as those who did complete the survey. There is no way of testing whether this assumption is correct without gathering data from the whole population, however our comparisons of the survey respondents to the entire population show no reason to suggest that the sample is not representative.

⁵ Information reviewed on geographical location showed the sample distribution closely matched the population distribution.

⁶ See for example <https://www.wd-deo.gc.ca/eng/19494.asp> and <https://www.pwc.com/ca/en/industries/technology/money-tree.html>.

1. Introduction

1.1 Study background

Alberta Innovates (AI) commissioned PricewaterhouseCoopers, LLP (PwC, us, or we) to conduct a study that will assist AI in better understanding the overall economic footprint associated with the INVENTURE\$ 2023 (the Conference or the Event), and especially those at the local level in Alberta.

INVENTURE\$ is staged by AI to bring together venture capitalists, angel investors, start-ups, entrepreneurs and thought leaders in Calgary to discover and share the latest in innovation, research, capital access and deal-making. The 2023 edition of INVENTURE\$ took place between May 31 and June 2, 2023 and attracted over 3,000 attendees.

The objective of this study is to provide an assessment of the 2023 Conference's economic impacts, including the direct economic value generated through the Conference's operating expenditures; tourism impacts, and the value of investment raised at the Conference. We also assessed the impact of the Conference on the perception of Alberta as an investment destination. Our analysis is primarily informed by a survey distributed to participants (Original Survey) and data gathered from AI. A follow-up assessment around nine months after the Event was also used to determine the extent to which further impacts materialized after the Conference concluded (Follow-Up Survey).

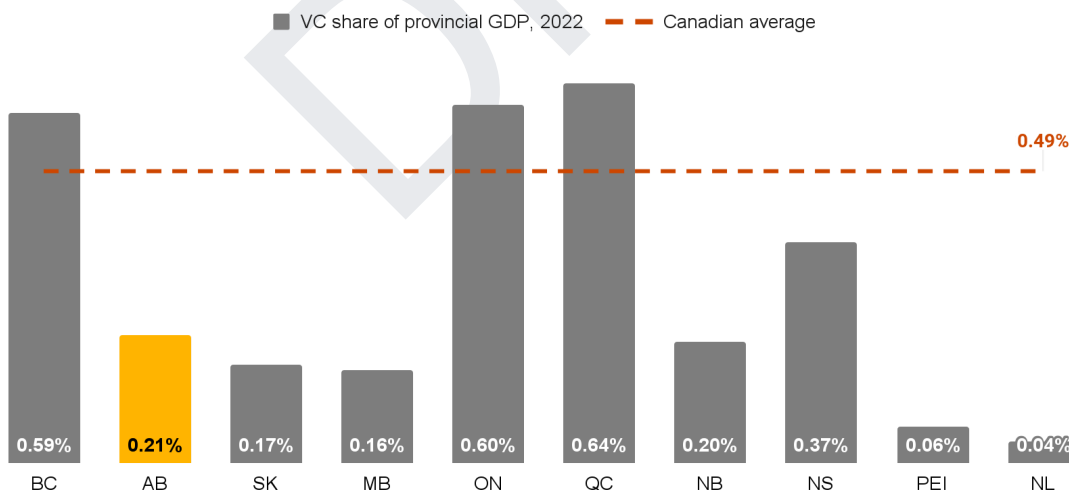
1.2 Venture capital trends in Alberta

The following section provides background information on trends in Alberta's venture capital market. Access to investment funds is critical to enable start-ups to grow, and continue to innovate, attract and develop highly skilled workers, and ultimately diversify the provincial economy.

In 2023, Alberta attracted \$707 million in venture capital across 86 deals. The top sectors for Alberta by the number of venture capital deals were information and communication technologies (ICT) (37%) and life sciences (24%).⁷

2022 data from Canadian Venture Capital and Private Equity Association (CVCA) shows that Alberta still lags behind some other provinces when assessing venture capital investment relative to the size of the economy, as shown in Figure 1.⁸ In 2022, Alberta attracted \$729 million in venture capital across 85 deals, corresponding to 0.21% of provincial GDP. Three provinces, BC, Ontario and Quebec, all boasted venture capital activity at around three times the level of Alberta relative to GDP. Nova Scotia also had a higher intensity level.

Figure 1: Venture capital investment as a percentage of provincial GDP by province, 2022



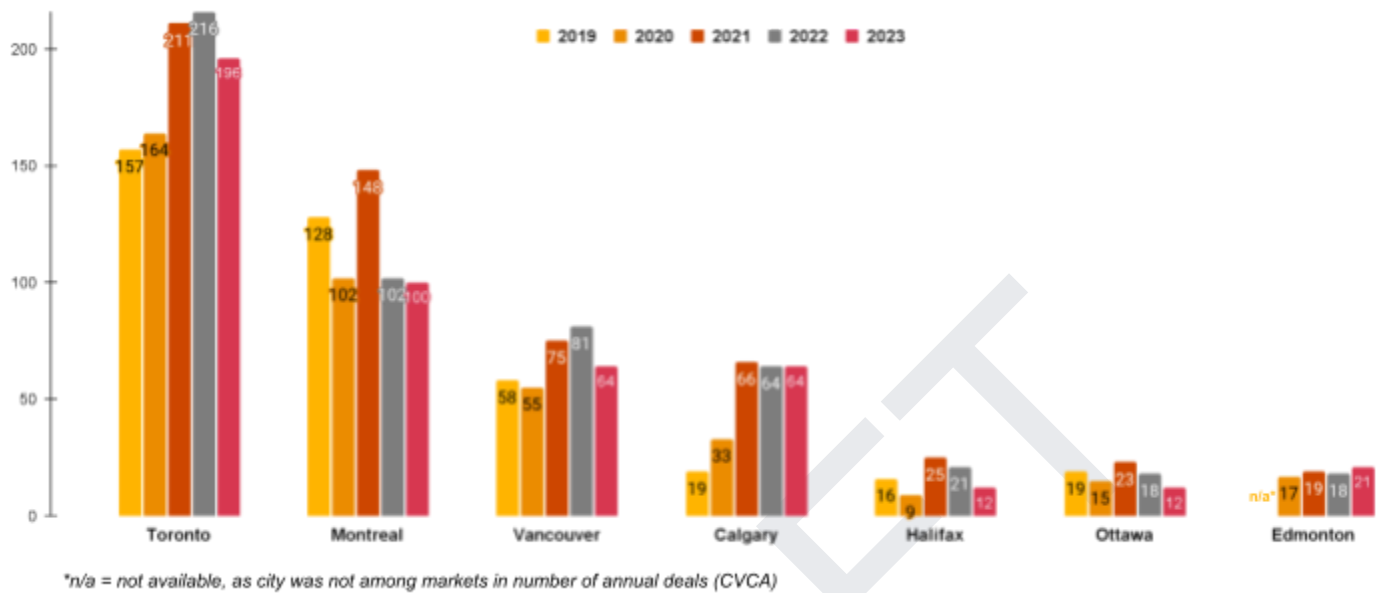
Sources: Canadian Venture Capital Market Overview 2022 Year in Review, CVCA Intelligence, Statistics Canada, Table 36-10-0402-01 Gross domestic product (GDP) at basic prices, by industry, provinces and territories (x 1,000,000)

⁷ Canadian Venture Capital Market Overview 2022 Year in Review, CVCA Intelligence.

⁸ 2023 GDP data not yet available from Statistics Canada so 2022 values were used.

Reviewing data at a city level and over time in Figure 2 shows that Calgary and Edmonton have been among the top cities for venture capital deals in Canada in recent years but continue to lag significantly behind Toronto and Montreal.

Figure 2: Top markets in Canada by number of venture capital deals, 2019–2023⁹



Source: CVCA Intelligence Annual Year End Venture Capital Reports 2019–2023

Figure 3-a shows that the Calgary market for venture capital increased in value between 2019 and 2023, reaching \$501 million in 2023, up from \$136 million in 2019. The number of deals has also been on an upward trend since 2019, increasing from 19 deals to 64 in 2022 and 2023. The number of venture capital deals in Edmonton has remained fairly steady over the past four years. However, between 2022 and 2023, the value of these deals nearly doubled, jumping from \$58 million to \$188 million across 21 transactions.

Figure 3-a: Venture capital financing trends in Calgary, 2019–2023

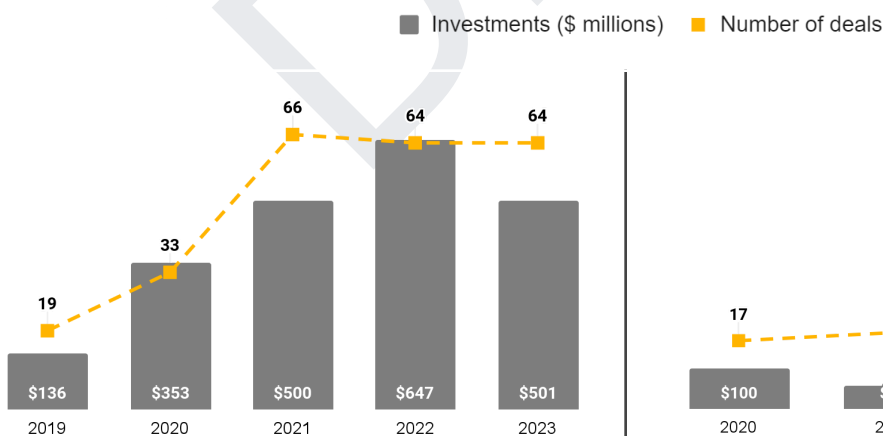
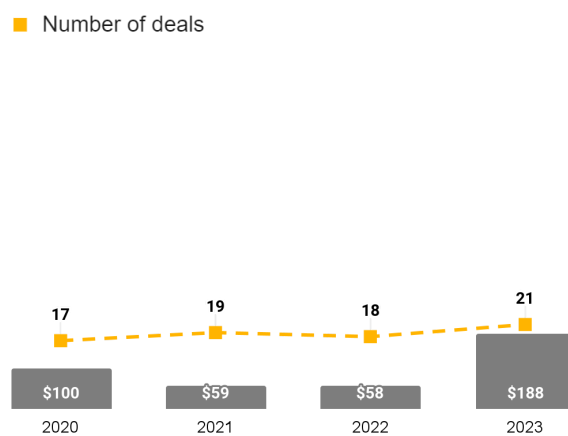


Figure 3-b: Venture capital financing trends in Edmonton, 2020–2023¹⁰



Source: CVCA Intelligence Annual Year End Venture Capital Reports 2019 - 2023

⁹ Data not available for Edmonton in 2019.

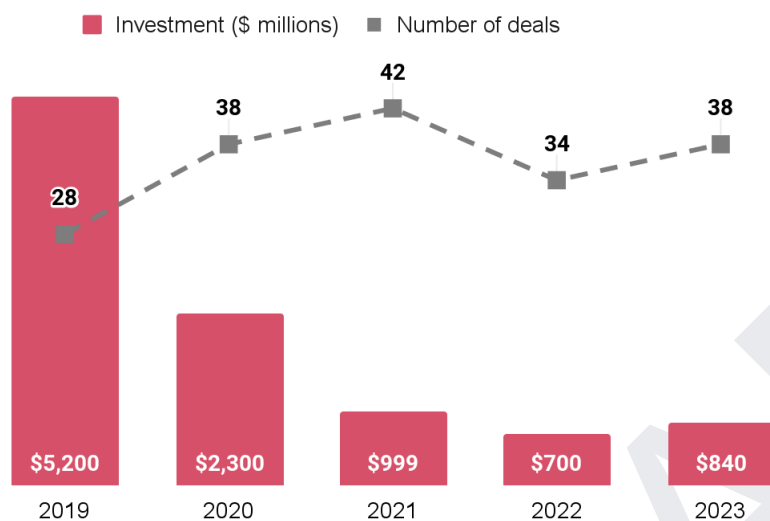
¹⁰ 2019 data not available for Edmonton in CVCA annual report.

1.3 Private equity trends in Alberta

As identified in its Technology and Innovation Strategy (ATIS), Alberta aims to attract more private capital into the technology and innovation ecosystem to continue to support businesses as they grow and further research and development in the province.

Private equity investment trends often experience high levels of volatility and this has been the case in Alberta. The 2019 figure of \$5.2bn was an outlier driven by the \$5 billion purchase of Calgary's WestJet Airlines by Onex Corporation. As shown in Figure 4 below, the trend when excluding this deal has been relatively flat.¹¹

Figure 4: Private equity trends in Alberta, 2019–2023



Source: CVCA Intelligence Annual Year End Private Equity Reports 2019–2023

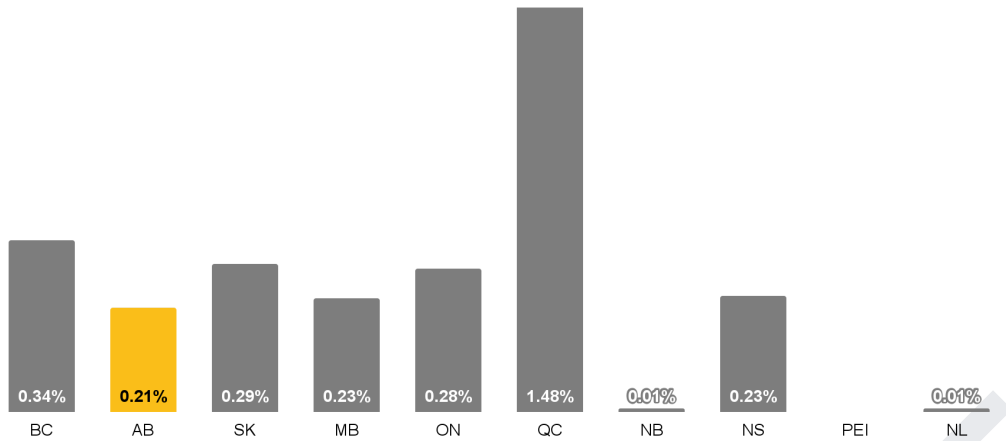
Relative to other provinces, Alberta's private equity investment levels relative to GDP are around the median.¹² In 2022, Alberta recorded 34 private equity deals valued at approximately \$700 million, with top sectors being oil and gas/power (29% of deals), industrial and manufacturing (21%) and ICT (15%). In 2023, Alberta had \$840 million invested into 38 private equity deals. The province of Québec stands out on this metric, as it is consistently ranked as the top province for private equity deals in Canada, particularly relative to its provincial GDP. This is driven by strong private equity markets in Montréal and Québec City, and significant transactions involving Investissement Québec, Fonds de solidarité FTQ and Caisse de dépôt et Placement du Québec (CDPQ). In 2023, these organizations led private equity investment in Canada, executing 185 deals worth \$3 billion. They are focused on Québec's economic development, with mandates to support local businesses and projects.¹³

¹¹ CVCA Intelligence Annual Year End Private Equity Report 2019.

¹² 2023 GDP data not yet available from Statistics Canada.

¹³ Provincial investment funds outside of Québec, such as Ontario Municipal Employees Retirement System (OMERS) and Alberta Investment Management Corporation (AIMCo), have investment mandates that encompass both domestic and international opportunities. In contrast, CDPQ operates under the CDPQ Act, enacted by the Québec government, which emphasizes responsible returns alongside a commitment to advancing Québec's economic development. This is achieved through a dedicated focus on investments in Québec projects, contributing to a strong private equity market in Québec.

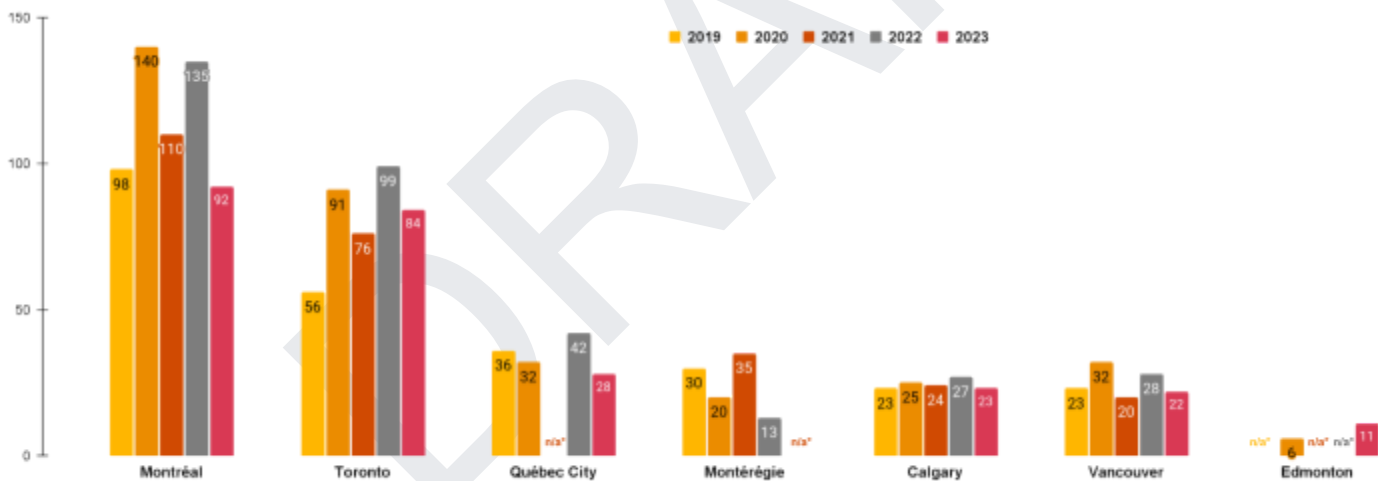
Figure 5: Private equity investment as a percentage of provincial GDP by province, 2022



Source: CVCA Intelligence Annual Year End Private Equity Reports 2019–2022, Statistics Canada Table 36-10-0402-01, Gross domestic product (GDP) at basic prices, by industry, provinces and territories (x 1,000,000)

The City of Calgary is the location for the majority of the private equity deals within the province of Alberta. As shown in the figure below, the number of deals has remained relatively steady over the past five years. Edmonton was among the top cities in terms of overall funding through private equity deals in 2020, reaching \$203 million in funding through six deals, but fell behind other cities in 2021 and 2022. During 2023, Calgary reached \$640 million across 23 private equity deals, while Edmonton reached \$158 million across 11 deals. Approximately 65% of the value of these deals (\$798 million total) were buyouts or add-ons, while the remainder were minority investments.¹⁴

Figure 6: Top markets in Canada (2022) by number private equity deals, 2019–2023¹⁵



*n/a = not available, as city was not among top markets in number of annual deals (CVCA)

Source: CVCA Intelligence Annual Year End Private Equity Reports 2019–2023

¹⁴ 2023 Canadian Private Equity Market Overview. CVCA Intelligence.

¹⁵ Edmonton was only among the top 10 cities in 2020 and 2023 and therefore PE data was not available in CVCA annual reports for other years. CVCA data was also not available for Québec City in 2021 and Montréal in 2023.

2. Impact of the 2023 Conference

This section summarizes our approach and presents the key findings of the study.

2.1 Our approach

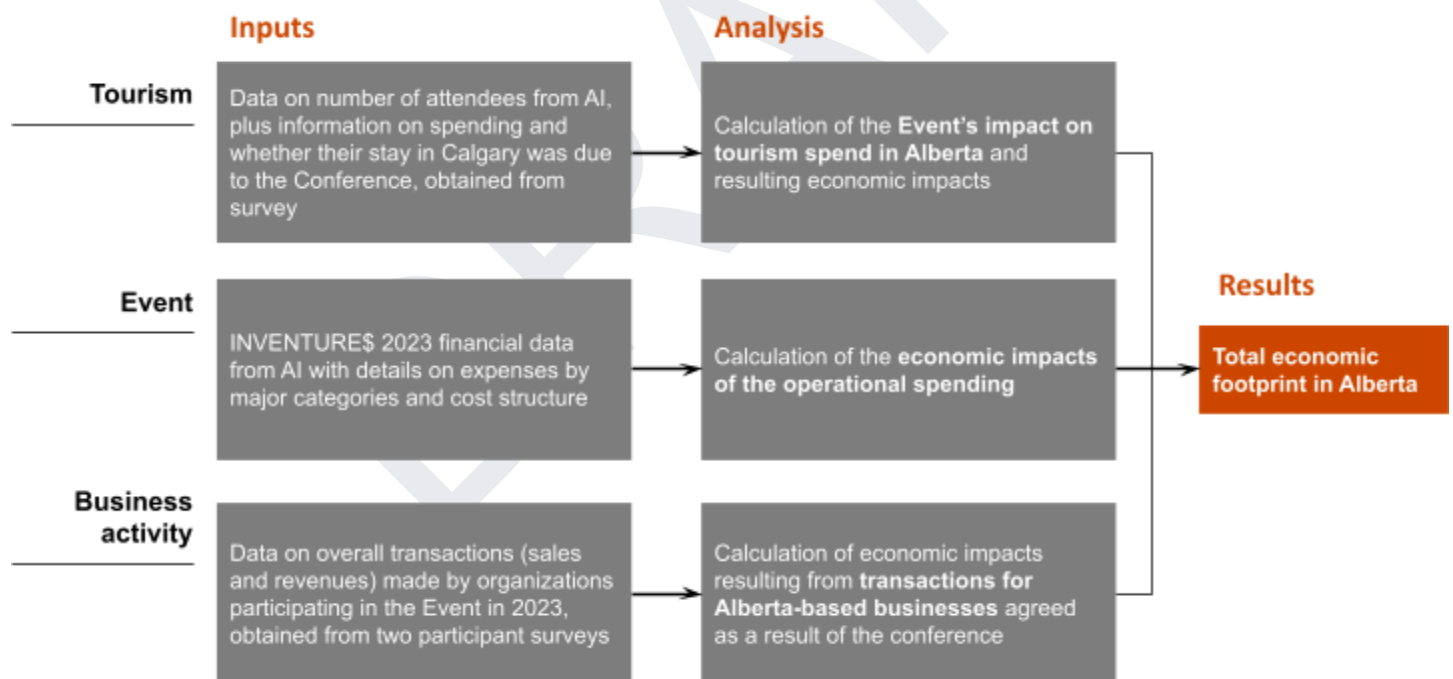
In assessing the tourism and business activity impacts of the Conference, we have relied on data collected through a survey of the participants that was distributed to all attendees immediately after the Event. The data for the assessment of staging the Conference is based on data provided by AI on operating expenditures. In all cases, the data collected on spending, revenue and investment were converted to GDP and then the wider impacts across the Alberta economy were calculated using input-output multipliers.

The economic footprint was therefore calculated at the direct, indirect and induced levels:

- **Direct impacts** result from direct spending related to or facilitated by the Conference.
- **Indirect impacts** arise from the activities of the firms in the supply chain of businesses affected by direct impacts.
- **Induced impacts** are the result of consumer spending by employees of the businesses stimulated by direct and indirect expenditures.
- The **total economic footprint** equals the sum of the direct, indirect, and induced economic impacts.

The key steps in our analysis are also illustrated below. **Appendix A** provides additional details on the approach.

Figure 7: Summary of approach



2.2 Overview of survey and findings

A survey was used to collect key data points from Conference attendees. The survey included questions on:

1. **Organizational characteristics:** including the type of organization, size and sector of operation.
2. **Tourism:** Importance of the Event in attendees' decision to visit Calgary and likelihood of returning in the future as a result of attendance.
3. **Business activity:** Business conducted at the Conference or facilitated by the Conference.

4. **Perception of Alberta as an investment destination:** Likelihood of investing or doing business in Alberta based on conditions such as market access, taxes, and quality of talent.

The Original Survey was distributed to over 3,000 Conference-goers and achieved 385 responses, resulting in an overall response rate of 12.4%.¹⁶ The Follow-Up Survey was also distributed to all INVENTURE\$ 2023 participants and achieved 163 responses (response rate of 5.3%). Other data used in our study was provided directly by AI. The key additional data was a breakdown of procurement spending related to staging the Conference and associated events and the number of Conference attendees. We have limited information available to compare the representativeness of the sample to that of the overall population surveyed. We did compare the distribution of registrant country of origin to the distribution of country of origin for companies that survey respondents worked for, and these distributions are very similar.

The following are key findings from the Original Survey of Conference attendees immediately post-Conference:

- 44% of respondents described themselves as **founders or start-up owners**. The next largest groups of attendees were potential investors (10%) and employees in a mature business (10%).
- 55% of respondents indicated their company has annual sales with a median value of **\$500,000** per year.¹⁷
- The most common **business size among respondents was between 3 and 10 employees** (39%).
- 77% of respondents indicated their **headquarters are located in Alberta**, with 44% located in Calgary.
- 6% of respondents identified having **headquarters in the USA**, and 5% reported being located **outside of North America**.¹⁸
- 25% of all respondents stated that their business **operates in the health sector**. This was likely driven by a high number of respondents representing start-ups, who were more likely to operate in the health sector (29%)^{19,20}:
 - In contrast, only 18% of mature business respondents stated that they work in the health sector. **Energy** was the largest sector among mature businesses (41%), while only 12% of start-ups reported working in energy.
 - After health, the business sectors most respondents reported working in were **marketing** (19%), **finance** (14%) and **product manufacturing** (14%).
- 18% of survey respondents report **concluding sales and/or investments** for their company during the Conference.
- 60% of respondents stated that their attendance at the Conference increased the likelihood that they will **return to Calgary or Alberta** as a tourist in the future.

Survey recipients were also asked to rank factors they consider to be Alberta's greatest strengths and weaknesses as an investment destination from 1 (significant weakness) to 10 (great strength). The respondent averages for each factor are shown in the figure below.

¹⁶ Given a population of 3,096, the sample size of 385 achieves a confidence interval (also called margin of error) of 4.7% at 95% confidence level.

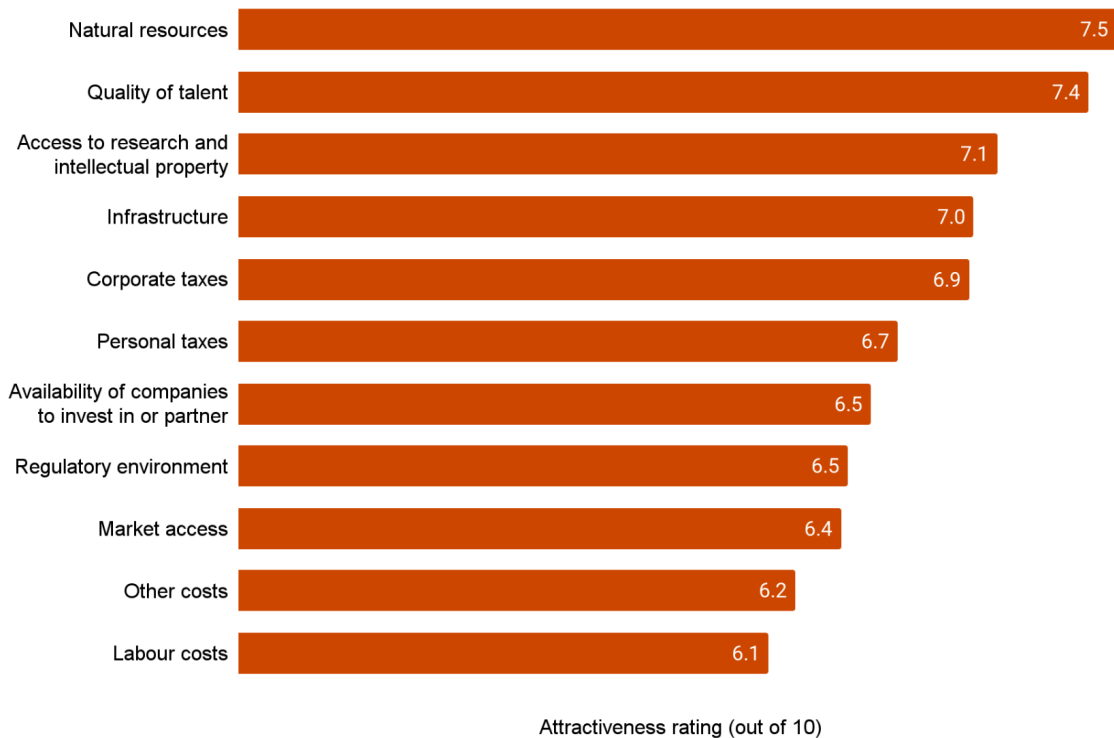
¹⁷ Out of respondents who gave a value of \$0 or greater than \$0 to the following question: *If your company has sales, please enter the approximate annual value in Canadian dollars (Enter 0 if you have no sales)*. Excludes those who didn't answer the question. PwC survey, n=337.

¹⁸ PwC survey, n=352.

¹⁹ Note that respondents were able to select multiple sectors.

²⁰ Mature business respondents or start-up respondents represent founders or employees of mature businesses or start-ups, respectively. Source: PwC survey, n=249.

Figure 8: Alberta's greatest strengths and weaknesses as an investment destination



Source: PwC survey, n=385

In free text responses in the survey, several other themes were highlighted by respondents:

- **Start-up investment support:** Increased funding for small start-up ventures, particularly from the federal government, in the form of grants and direct, flexible financing. In addition, hands-on start-up mentoring, and more guidance on how to easily and quickly apply for grants.
- **Investor tax credits:** Return of the Investor Tax Credit program, and reduction of capital gains tax.
- **Reduced red tape:** Improved process for grant review and acceptance, as well as bureaucratic processes (tax code, digital process adoption, business services, etc.) to make it easier to do business in Alberta.
- **Connectivity:** Improved flight and transit connectivity between Edmonton and Calgary, across the province and with the rest of the country.

2.3 Calculated economic footprint of tourism, based on Original Survey data

The importance of the tourism sector was highlighted during the COVID-19 pandemic, when travel was halted and many economies and individual livelihoods suffered as a result of decreased tourism demand and spending, exports and employment.²¹ The tourism economy facilitates spending on several areas which can generate economic impacts. These may include:

- **Transportation:** Including passenger services via air, rail and boat, as well as interurban, charter and tour buses and vehicle rental.
- **Accommodations:** Including hotels, inns, hostels, camping and rental properties.
- **Food and beverage:** Restaurants and licensed establishments, as well as food service provided by accommodations.
- **Meetings and events:** Conventions and business meetings, as well as major events and festivals.
- **Attractions:** Recreation and entertainment activities, as well as cultural, natural and historical attractions.

²¹ Report on the Canadian Tourism Industry. Tourism Industry Association of Canada (TIAC), HLT Advisory and VISA Canada.

Using data provided through the Original Survey, we calculated that the 2023 Conference supported \$2.1 million in local GDP via tourism effects, \$1.2 million in labour income and 28 person years of employment as a result of those who came to stay in Calgary due to the Conference, as shown in Figure 9 below.

Figure 9: Economic footprint in Alberta of tourism spending among INVENTURE\$ 2023 participants, reported in Original Survey

	GDP (in thousands)	Taxes on products and production (in thousands)	Labour income (in thousands)	Jobs (full-time equivalent per year)
Direct	\$1,209	\$54	\$755	21
Indirect	\$514	\$18	\$260	4
Induced	\$414	\$52	\$154	3
Total	\$2,138	\$123	\$1,169	27

Source: PwC survey, n=382

Many INVENTURE\$ 2023 participants are based outside of Calgary (57% of survey respondents), and we included questions in the Original Survey to understand whether they had come to Calgary because of the Conference, and whether their visit had increased the likelihood that they would return in the future as tourists. Both of these effects provide an incremental benefit to Calgary's tourism economy by driving spending that would not otherwise have occurred in the city without the Conference. We recognize that this analysis operates under the assumption that all tourism spending by Alberta residents as a result of the Conference is incremental to spending that would have naturally occurred within the province. Hence, it should be noted that, where attendees come from elsewhere in the province, there may be some reduction in economic activity outside of Calgary (e.g. through expenditure on food or transportation) that is not accounted for here.

60% of Original Survey respondents also indicated that their attendance at the 2023 Conference increased the likelihood that they would return to Calgary or Alberta as tourists in the future. We calculate that return tourism spending from these survey respondents has the potential to generate an additional \$1.3 million in direct GDP impacts in the future, which is not captured in the table above.²² More details related to the approach taken for the tourism footprint is in **Appendix A**.

2.4 The economic footprint of staging the Conference

Spending on local suppliers to stage the Conference also supports economic activity in Alberta, such as spending on the venue, catering, and speaker travel. We calculated that these impacts supported a further \$2.5 million in local economic footprint through direct, indirect and induced impacts. This is summarized in the figure below.^{23,24}

Figure 10: Economic footprint in Alberta of INVENTURE\$ 2023 direct spending

	GDP (in thousands)	Taxes on products and production (in thousands)	Labour income (in thousands)	Jobs (full-time equivalent per year)
Direct	\$1,534	\$29	\$708	13
Indirect	\$526	\$22	\$293	5
Induced	\$407	\$66	\$151	3
Total	\$2,467	\$118	\$1,152	21

Source: Alberta Innovates, PwC analysis

²² The potential economic impact of tourism is based on the assumption that those who answered "yes", that the Conference increased the likelihood that they will return to Calgary or Alberta as a tourist, will return as tourists once in the future.

²³ Totals may not sum due to rounding.

²⁴ This figure is upwardly revised from the September 2023 version of this report as a result of updated Conference spending data from Alberta Innovates. Previously, the economic footprint in Alberta was reported as \$2.3 million in GDP, \$106,000 in taxes, \$1,065,000 in labor income, and 19 jobs.

2.5 Business carried out based on Original Survey (immediately post-Conference)

The most important function of the Conference is to bring entrepreneurs, business people and investors together, encourage positive connections and ultimately catalyse new business activity. In that context, we calculated the economic footprint associated with sales and investments agreed upon at the Conference, or as a result of the Conference.

Over 35% of all survey respondents indicated that they have concluded or are in discussions regarding investments and/or sales as a result of their attendance at the Conference. The figure below presents the total value of sales and investment activity reported by these survey respondents.²⁵

These values are significant, with \$25.4 million of agreed or potential sales and \$88.5 million of agreed or potential investments reported across the various categories.²⁶ The largest category reported in the Original Survey was one-time investments under discussion, which amounted to \$69.5 million. The value of investments concluded as a result of the Conference was found to be far lower than the value of investments under negotiation, but this was in line with our expectations, given the short duration of the Event and the timing of the Original Survey.

Figure 11: Reported value of business carried out during the Conference by survey respondents, Original Survey

Type of business	Sum of values reported by survey respondents
Sales	
One-time, concluded	\$1.8 million
Recurring annually, concluded	\$9.4 million
One-time, in discussion	\$4.3 million
Recurring annually, in discussion	\$9.9 million
Total	\$25.4 million
Investments	
One-time, concluded	\$7.8 million
Recurring annually, concluded	\$1.5 million
One-time, in discussion	\$69.5 million
Recurring annually, in discussion	\$9.7 million
Total	\$88.5 million

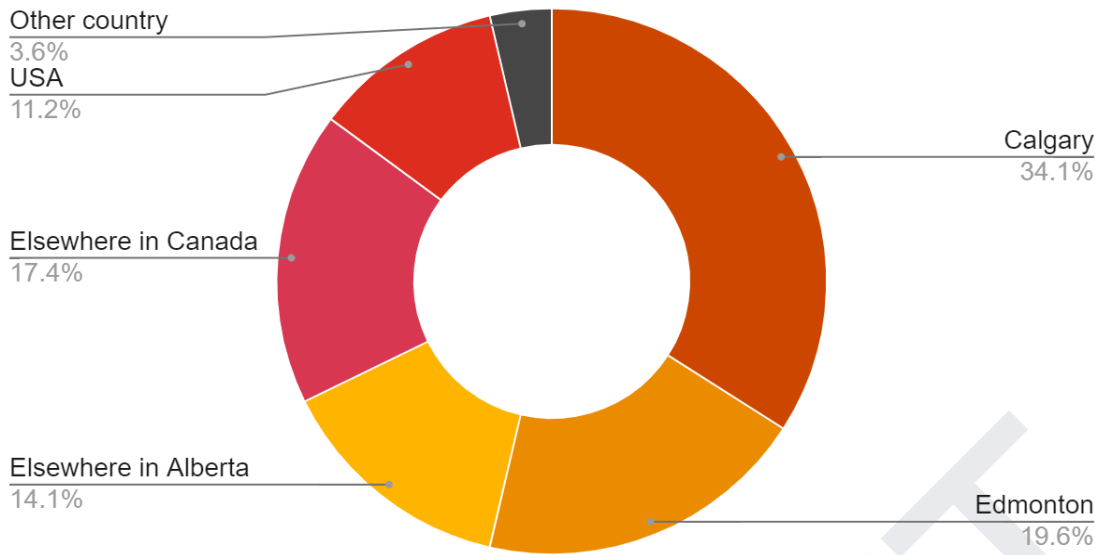
Source: PwC survey, n=136

It should be noted that the majority (68%) of sales and investment transactions reported is expected to take place within Alberta. The remainder of sales and investment transactions is expected to take place outside of the province or outside of Canada. The geographical breakdown is shown in Figure 12 below.

Figure 12: Locations of sales and investment agreements made at the Conference, Original Survey

²⁵ These two responses are independent; i.e. a respondent who indicated having conducted business resulting in sales may or may have not also conducted investment dealings.

²⁶ Note that these totals only count recurring sales or investments once.



Source: PwC survey, n=133

The figures reported above only correspond to those attendees who responded to the survey. There may also have been additional deals concluded by non-responders. Consequently, we have produced a range of estimates for total business deals by inferring survey results across the population of Conference attendees who did not respond. This extrapolation was based on the assumption that the characteristics of people who did not respond to the survey match the characteristics of those who did.

Additionally, we have applied a probability to those sales and investments under discussion to estimate the expected value of them which may come to fruition. Whether those deals would be completed was highly uncertain at the time the Original Survey was conducted, as investors may make a decision based on expected returns, level of risk, market size, perceived value of the product, availability of resources, or a combination of many other factors.²⁷ To this end, we have used a range of assumptions about the proportion of sales and investments, in discussions at the time of the Original Survey, that will be successfully concluded. These assumptions are based on input from deals specialists and on reviewing the surveys performed to evaluate the 2019 Conference.

Figure 13: Expected value of business carried out during INVENTURE\$ 2023 — Inference of survey results across non-responding population, Original Survey

Type of business		Estimated total value of business conducted at the Conference ²⁸
Sales	One-time, concluded	\$14.3 million
	Recurring annually, concluded	\$71.4 million
Investments	One-time, concluded	\$54.4 million
	Recurring annually, concluded	\$8.2 million
Total value of business concluded (one-time and single-year of recurrence)		\$148.4 million
Assumed success rate of deals in discussion at Conference		
		Lower bound: 15% negotiation success rate
		Upper bound: 35% negotiation success rate
Sales	One-time, in discussion	\$3.9 million
		\$9 million

²⁷ How Venture Capitalists Make Investment Choices, Ben McClure, July 26, 2022, Investopedia.com.

²⁸ Totals may not add up due to rounding.

Type of business	Estimated total value of business conducted at the Conference ²⁸	
Recurring annually, in discussion	\$12 million	\$28 million
Investments One-time, in discussion	\$80.7 million	\$188.3 million
Recurring annually, in discussion	\$11.2 million	\$26 million
Total expected value of business in discussion (one-time and single-year of recurrence)	\$107.7 million	\$251.3 million
Estimated total expected value of business conducted (concluded transactions plus share of those in discussion that are concluded, one-time and with a single year of recurrence)	\$256.1–\$399.7 million	

Source: PwC survey, n=136

Based on this analysis, our overall calculations for the total expected business concluded as a result of the Conference are shown in Figure 13 above. Inferring the value of concluded sales and investments to the population who did not respond to the survey would result in a calculated value of \$148.4 million in sales and investments agreed upon at the Conference.²⁹

Of the business deals under discussion at the Conference, based on various assumptions about the likelihood that these reach fruition, we calculate that the expected value of business conducted could eventually reach \$256.1 million–\$399.7 million.

2.6 Economic footprint of sales and investments in Alberta, Original Survey

Finally, we have calculated the expected value of the economic footprint in Alberta of these deals by converting the revenue and investment values to GDP and applying input-output multipliers to assess indirect and induced effects.³⁰ The tables below show the potential economic footprint in Alberta resulting from the estimate of total business carried out during INVENTURE\$ 2023, using the low (15%) and high (35%) negotiation success rates outlined in Figure 13.³¹

Figure 14: Economic footprint in Alberta of business carried out during INVENTURE\$ 2023 — low negotiation success rate³², Original Survey

	GDP (in millions)	Taxes on products and production (in millions)	Labour income (in millions)	Jobs (full-time equivalent per year)
Direct	\$97.3	\$5.2	\$46.1	656
Indirect	\$39.4	\$1.6	\$22.0	302
Induced	\$27.2	\$4.3	\$10.1	190
Total	\$163.9	\$11.1	\$78.2	1,148

Source: PwC Survey, n=136

²⁹ As before, this only counts a single year of recurring revenues or investments to be conservative.

³⁰ The transaction values are converted to direct GDP using standard ratios for output and labour income to GDP from Statistics Canada. Sales are equated to economic output while investment is equated to labour income based on the assumption that in start-up enterprises, the bulk of costs consists of employee wages and salaries.

³¹ We have used a conservative assumption in the treatment of recurring investment and sales and assumed these only apply for a single year in these estimates. These assumptions are based on input from deals specialists and on reviewing the surveys performed to evaluate the 2019 Conference.

³² Totals may not add up due to rounding.

Figure 15: Economic footprint in Alberta of business carried out during INVENTURE\$ 2023 — high negotiation success rate³³, Original Survey

	GDP (in millions)	Taxes on products and production (in millions)	Labour income (in millions)	Jobs (full-time equivalent per year)
Direct	\$151.9	\$8.1	\$72.0	1,024
Indirect	\$61.5	\$2.4	\$34.4	471
Induced	\$42.5	\$6.8	\$15.7	297
Total	\$255.9	\$17.3	\$122.1	1,792

Source: PwC Survey, n=136

Study limitations and uncertainty

The most significant result from the research is the estimate of total business transactions which we have based on inferring the value of deals reported in our survey across the entire population of the Conference’s participants, along with assumptions about the share of deals under negotiation that will successfully be concluded. While this inference approach is commonly used when analyzing the results from surveys, it is important to highlight several key assumptions underpinning it, including:

- That there is no sampling error in the survey responses. Therefore, survey respondents represent a random sample of the population and do not overrepresent or underrepresent certain groups. Given the limited information about the population characteristics, we have not been able to perform a detailed test of this assumption.
- That there is no measurement error in the survey responses (i.e. respondents have answered the survey accurately and truthfully and correctly interpreted the question).
- That there is no coverage error in the survey responses (i.e. it was sent to all Conference attendees and did not miss any groups). Given that the survey was sent to all people who registered for the Conference, we are reasonably confident that any coverage error is low.

As noted previously, we conducted a Follow-Up Survey nine months after the Conference, which helps us to refine this estimate by better understanding whether deals under negotiation were finalized. The nature of venture capital (VC) is that deals tend to be concentrated in relatively small numbers of high-value deals. This pattern was also observed in our survey results; therefore, the results that are generalized across the population as a whole will have a large margin of error.

2.7 Business carried out based on Follow-Up Survey results

We conducted a Follow-Up Survey of the Conference participants nine months after the original Event. The objective of this Follow-Up Survey was to validate the impacts measured initially after the Conference and to ascertain if there have been further impacts in the months following the 2023 Conference.

Specifically, the Follow-Up Survey inquired about the respondents’ individual and employee characteristics, business carried out as a result of INVENTURE\$ 2023 attendance, and creation of any new business enterprises following participation in the Conference.

The Follow-Up Survey was distributed to all INVENTURE\$ participants and received 163 responses, or a 5.3% overall response rate.

By comparison, the Original Survey distributed immediately after the event achieved a 12.4% response rate. The respondents’ characteristics in terms of occupation and business characteristics were similar between the two surveys:

³³ Totals may not add up due to rounding.

- 48% of survey respondents described themselves as **founders or start-up owners**. This is consistent with the Original Survey in which 44% described themselves as founders or start-up owners. The next largest groups of respondents for the Follow-Up Survey were employees in a mature business (14%) and start-up employees (9%).
- 88% of respondents indicated that their headquarters are **located in Alberta**. Only 3% of respondents indicated being located outside of Canada.
- 26% of all respondents stated that their business operates in the health sector. This is consistent with 25% of respondents in the Original Survey who indicated that their business operates in the health sector. Following health, the next largest sectors noted were energy (21%) and product manufacturing (13%). Note that respondents were able to select multiple industries in which their business operates.

32% of Follow-Up Survey respondents indicated that they have concluded or are in discussions regarding investments and/or sales as a result of their attendance at the Conference. The following table shows the value of business reported in the Follow-Up Survey, as well as in the original one.

Figure 16: Reported value of business carried out during the Conference by survey respondents, Original and Follow-Up Surveys

Type of business	Sum of values reported by Original Survey respondents (Response rate: 12.4%)	Sum of values reported by Follow-Up Survey respondents (Response rate: 5.3%)
Sales		
One-time, concluded	\$1.8 million	\$0.8 million
Recurring annually, concluded	\$9.4 million	\$0.8 million
One-time, In discussion	\$4.3 million	\$0.2 million
Recurring annually, in discussion	\$9.9 million	\$7.4 million
Total	\$25.4 million	\$9.1 million
Investments		
One-time, concluded	\$7.8 million	\$5.7 million
Recurring annually, concluded	\$1.5 million	no responses ³⁴
One-time, in discussion	\$69.5 million	\$11.6 million
Recurring annually, in discussion	\$9.7 million	no responses ³⁵
Total	\$88.5 million	\$17.3 million

Similarly to the Original Survey, the figures for the Follow-Up Survey reported above only correspond to those attendees who responded to the survey. Please refer to Section 2.5 for how survey responses were extrapolated for the Conference population and how in-discussion values were treated for calculating the expected value of business carried out.

Figure 13: Expected value of business carried out during INVENTURE\$ 2023 — Inference of survey results across non-responding population, Follow-Up Survey

³⁴ Due to the lack of responses, and for the purpose of the analysis for expected value of business carried out, we have assumed the values for concluded and in-discussion investments recurring annually to be equivalent to those provided in the Original Survey.

³⁵ See above.

Type of business		Estimated total value of business conducted at the Conference ³⁶	
Sales	One-time, concluded	\$14.4 million	
	Recurring annually, concluded	\$15.5 million	
Investments	One-time, concluded	\$109.2 million	
	Recurring annually, concluded	\$8.2 million	
Total value of business concluded (one-time and single year of recurrence)		\$147.3 million	
Assumed success rate of deals in discussion at Conference		Lower bound: 15% negotiation success rate	Upper bound 35% negotiation success rate
Sales	One-time, in discussion	\$0.4 million	\$1.0 million
	Recurring annually, in discussion	\$21.0 million	\$49.0 million
Investments	One-time, in discussion	\$32.9 million	\$76.8 million
	Recurring annually, in discussion	\$11.2 million	\$26 million
Total expected value of business in discussion (one-time and single year of recurrence)		\$65.5 million	\$152.8 million
Estimated total expected value of business conducted based on Follow-Up Survey data (concluded transactions plus share of those in discussion that are concluded, one-time and with a single year of recurrence)		\$212.8M–\$300.1 million	

Estimated total expected value of business conducted based on Original Survey data (for reference) **\$256.1M–\$399.7M**

Source: PwC Survey, n=136

As depicted in the table above, the range of the estimated total value of business conducted relying on Follow-Up Survey responses is narrower (a reduced lower and upper bound) compared to the Original Survey. The estimated concluded business was fairly consistent between the Follow-Up Survey and Original Survey, with a decrease of only 0.75%, indicating that the differences in the two ranges is driven primarily by the reported business in discussion (sales and investments).

A reason for the difference in these ranges could be driven by fewer transactions reaching fruition than assumed, or measurement error (we note the Follow-Up Survey response rate of 5.3% compared to 12.4% for the Original Survey), resulting in a lower sum of values reported, particularly for those still in discussion.

The sample size differences have been accounted for by inferring the sample results across the whole population of Conference attendees. These estimates assume that the characteristics of people who did not respond to the survey match those of the people who did.

³⁶ Totals may not add up due to rounding.

2.8 Economic footprint of sales and investments in Alberta, Follow-Up Survey

Using the same approach as the Original Survey, we have calculated the expected value of the economic footprint in Alberta of the deals reported using Follow-Up Survey data by converting the revenue and investment values to GDP and applying input-output multipliers to assess indirect and induced effects.³⁷

Figure 14: Economic footprint in Alberta of business carried out during INVENTURE\$ 2023 — low negotiation success rate³⁸, Follow-Up Survey

	GDP (in millions)	Taxes on products and production (in millions)	Labour income (in millions)	Jobs (full-time equivalent per year)
Direct	\$82.3	\$4.4	\$39.0	555
Indirect	\$33.3	\$1.3	\$18.6	255
Induced	\$23.0	\$3.7	\$8.5	161
Total	\$138.6	\$9.4	\$66.2	971
Total based on Original Survey (for reference)	\$163.9	\$11.1	\$78.2	1,148

Source: PwC Survey, n=136

Figure 15: Economic footprint in Alberta of business carried out during INVENTURE\$ 2023 — high negotiation success rate³⁹, Follow-Up Survey

	GDP (in millions)	Taxes on products and production (in millions)	Labour income (in millions)	Jobs (full-time equivalent per year)
Direct	\$108.5	\$5.8	\$51.4	732
Indirect	\$43.9	\$1.7	\$24.6	336
Induced	\$30.4	\$4.8	\$11.2	212
Total	\$182.7	\$12.4	\$87.2	1,280
Total based on Original Survey for (reference)	\$255.9	\$17.3	\$122.1	1,792

Source: PwC Survey, n=136

2.9 Results summary

The following table presents a summary of the calculated economic footprint of the INVENTURE\$ 2023 Conference.

Figure 16: Summary of INVENTURE\$ 2023 total GDP footprint in Alberta

³⁷ The transaction values are converted to direct GDP using standard ratios for output and labour income to GDP from Statistics Canada. Sales are equated to economic output while investment is equated to labour income based on the assumption that, in start-up enterprises, the bulk of costs consists of employee wages and salaries.

³⁸ Totals may not add up due to rounding.

³⁹ Totals may not add up due to rounding.

Category	Economic footprint (contribution to provincial GDP)
Tourism	\$2.1 million
Direct spending on Event	\$2.5 million
Business carried out	\$138.6 million–\$255.9 million

As demonstrated by the tables in Sections 2.6 and 2.8, the range of the economic footprint is composed of the lowest estimate of business carried out (estimated using the low negotiation rate and Follow-Up Survey data) and the highest estimate of business carried out (estimated using the high negotiation rate and Original Survey data) at the 2023 Conference.

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Appendix A: Additional detail on methodology

Statistics Canada input-output modelling

The economic footprint of the INVENTURE\$ Conference captures several areas of spending which will have a significant impact on companies in the local economy, on the employees of these companies, and on the whole supply chain.

These include:

- The value of AI's spending on suppliers in relation to operating the Conference.
- The value of tourism spending among INVENTURE\$ participants.

Our methodology for measuring these types of economic footprints is to use an input-output model of the Alberta economy to calculate economic multipliers. The input-output model will work as follows: spending on the Conference or resulting from the Conference will support employment in industries through the purchase of goods, equipment, and services from companies. These companies, in turn, purchase goods, equipment and services from other companies to meet the demand generated, resulting in indirect impacts.

Furthermore, employees of affected industries and employees in other companies supported by the affected industries' expenditures also spend a large portion of their earnings in the local region, which supports jobs in other industries as well. Consequently, the above economic footprint will be calculated at the direct, indirect and induced levels:

- Direct impacts result from direct spending due to the Conference.
- Indirect impacts arise from the activities of the firms providing inputs to the industries' suppliers (in other words, the suppliers of its suppliers).
- Induced impacts are the result of consumer spending by employees of the businesses stimulated by direct and indirect expenditures.

The total economic footprint equals the sum of the direct, indirect, and induced economic impacts.

The fundamental philosophy behind economic footprint analysis is that spending on goods and services has attendant impacts throughout the economy. For this project, the following measures of economic activity were assessed:

- Employment – the number of jobs created or supported by expenditures (including those supported in the broader economy).
- Labour income – the amount earned by the employment generated by the industries' expenditures.
- Value added or contribution to GDP – the value added to the economy, or the unduplicated total value of goods and services. GDP includes only final goods to avoid double-counting of products sold during a certain accounting period.
- Tax contribution – the amount of tax revenues generated from taxes on products (e.g. trading profits, gas tax, sales taxes and excise taxes), taxes on production at the federal, provincial and municipal levels (e.g. property taxes).

Survey bias assessment

The characteristics of survey respondents should, on average, be similar to those of all Conference participants in order to draw conclusions from the survey applicable to the entire population of the Event. The only somewhat comparable information available to us on the characteristics of the entire population of Conference participants was their country of origin. We compared that information to the location of the companies' headquarters, as reported by survey respondents. We found that the two distributions were similar, with 89% of registrants and survey respondents working for organizations with headquarters in Canada, 6% from the USA and 5% from other countries. While this comparison tends to support the hypothesis of no survey bias, it does not constitute a full statistical procedure to test sample representativeness.

Economic footprint analyses

Tourism footprint analysis

Our survey collected information on whether attendees were visiting Calgary purely for the 2023 INVENTURE\$ Conference. Assumptions on spending by attendees were based on previous data, including what share of attendees stay in paid accommodation, the number of nights spent in Calgary, and how much they spent during their time in Calgary. This spending data is segmented between food and restaurants, souvenirs, hotel and accommodation, entertainment and transportation (involving both local, such as taxis and transit, and getting to Calgary for the Conference).

We defined tourism spending as only the share of attendees who stayed in paid accommodation during the Conference. This is likely to be a conservative estimate, as it excludes both the spending of those accompanying any Conference attendees, as well as any additional spending of people who are already based in the Calgary area (those assumed not staying in paid accommodation). We have assumed that the survey respondents are representative of the Conference attendee population as a whole, and our calculations of the economic impacts generalize the survey findings across all Conference attendees. The wider indirect and induced economic impacts associated with tourism expenditures of Conference attendees are calculated using Statistics Canada input-output multipliers.

Event footprint analysis

The economic footprint of the operating expenses of staging the INVENTURE\$ 2023 Event was also evaluated using Statistics Canada input-output multipliers. The input to this analysis is spending data by category provided by AI.

Value of business carried out analysis

Our survey asked Conference participants about the value of new business conducted at the Conference (in terms of revenue and investments, one-time and recurring deals, concluded deals and those under discussion). We present the results of this in three ways:

1. Value of business reported directly by survey respondents.
2. An estimate of the total value of business conducted at the Conference based on a generalization of these results across the non-reporting attendees of the Conference (remaining 87.6% of participants who did not answer the survey)⁴⁰.
3. A calculation of the GDP generated by the sales and investment deals conducted at the 2023 Conference.

⁴⁰ The key assumption we have employed in this estimate is that the deals reported by the survey respondents can be generalized across the whole population. Therefore, those not answering the survey are assumed to have conducted the same level of transactions as those who did complete the survey.

Appendix B: Limitations

Receipt of new data or facts: PwC reserves the right, at its discretion, to withdraw or make revisions to this report should we receive additional data or be made aware of facts existing at the date of the report that were not known to us when we prepared this report. The findings are as of September 2023 and PwC is under no obligation to advise any person of any change or matter brought to its attention after such date, which would affect our findings.

Reliance on third party data/information: We relied upon the completeness, accuracy and fair presentation of all the information, data, advice, opinion or representations obtained from third parties, public sources and AI, which is detailed under the Scope of our Work section (collectively, the Information). We have not conducted any audit or review of the Information, nor have we sought external verification of the Information. We accept no responsibility or liability for any losses occasioned by any party as a result of our reliance on the financial and non-financial information that was provided to us or found in the public domain.

Input-output analysis: Input-output analysis (a model used to calculate output, Gross Domestic Product (GDP) and employment impact) does not address whether the inputs have been used in the most productive manner, or whether the use of these inputs in this industry promotes economic growth by more than their use in another industry or economic activity. Nor does input-output analysis evaluate whether these inputs might be employed elsewhere in the economy if they were not employed in this industry at the time of the analysis. Input-output analysis calculates the direct, indirect and induced economic impacts that can reasonably be expected to affect the economy based on historical relationships within the economy. This analysis does not take into account fundamental shifts in the relationships within the economy that may have taken place since the last estimation of multipliers by Statistics Canada, nor shifts that may take place in the future.

Use limitations: This report has been prepared solely for the use and benefit of, and pursuant to a client relationship exclusively with AI. We understand that AI may share our report with third parties. AI may release this report to third parties only in its entirety, and any commentary or interpretation in relation to this report that AI intends to release to the public either requires PwC's written consent or has to be clearly identified as AI's own interpretation of the report. PwC accepts no duty of care, obligation or liability, if any, suffered by AI or any third party as a result of an interpretation made by AI of this report.

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This report and related analysis must be considered as a whole: Selecting only portions of the analysis or the factors considered by us, without considering all factors and analysis together, could create a misleading view of our findings. The preparation of our analysis is a complex process and is not necessarily susceptible to partial analysis or summary description. Any attempt to do so could lead to undue emphasis on any particular factor or analysis. We note that significant deviations from the above listed major assumptions may result in a significant change to our analysis

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Our Services were performed and this Report was developed in accordance with our engagement letter with Alberta Innovate dated May 30 2023 and are subject to the terms and conditions included therein.

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