

# WHAT NOW?

Oh, the places  
youth could go!

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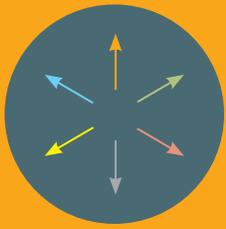
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## What is the problem?

For most of the last 50 years, Alberta was a net receiver of young people. On average the province's population of 15-29 year olds grew by about 8,000 per year. In 2016 the tables turned and the province began to witness a net loss of youth in this age group. A [Canada West Foundation-led study](#) looked at the reasons for this dramatic shift. Young people from across Alberta, as well as Vancouver and Toronto, perceive that Alberta's economy is still largely all about the oil and gas sector.<sup>1</sup> What's more, they believe that to find a job or move ahead in another sector they would need to look beyond Alberta.





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At the end of Q1 2022

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More than a third (31,500)  
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**\$25-\$30**  
per hour

While there is no doubt that oil and gas is still the leading contributor to the Alberta GDP, at the end of Q1 2022, 96 per cent of Alberta's 86,000 vacant jobs were in sectors other than oil and gas. Of those jobs, more than a third (31,500) offered between \$25 and \$30 per hour. Investment in Alberta's economy has diversified since the fall of oil prices in 2014, and young talent is desperately needed in sectors as diverse as clean energy, life-sciences, agri-food, film and television and artificial intelligence. While many well-paying jobs are available for post-secondary graduates, 58,000 jobs that do not require more than high-school graduation, and pay an average of about \$20 per hour, were available at the end of Q1, 2022.

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To encourage youth to choose Alberta as a place to build their future, they need a more accurate perception of the province and the vast array of career opportunities available.

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## What is the solution?

Youth move for a variety of reasons, but the main driver is economic – they seek good or better job opportunities and career prospects. It will take a concerted effort by multiple stakeholders to reverse the recent trend and attract youth back to the province by addressing the perception that Alberta’s economy continues to be dominated by the traditional oil and gas sector. Alberta’s government and post-secondary institution leaders, guidance and career counsellors, and employers in all sectors can all take part in the effort to communicate the breadth and depth of opportunities in the province that are available for youth. Other thoughts about this communication include:

- Present information in youth-friendly ways on media used by youth.
- Provide information about career choices to young people long before they make the post-secondary choices that seed their early career opportunities.
- Help youth build an understanding of themselves and the competencies needed to succeed in the multitude of available (and coming) jobs.
- Make quality early work-integrated learning experiences available for all youth.
- Improve labour market information (LMI) so stakeholders can access real-time data about current and future labour demand in the Alberta job market and what steps must be taken to ensure an ample supply of talent.



## The cleaning and greening of the oil & gas sector

**is not the only reason youth should be attracted to Alberta. There are many sectors that provide good career choices and offer meaningful work and the means to build a good life.**

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## Youth perceptions & reality

In 2021, Canada West Foundation and its partners held 12 focus groups and surveyed 2,000 younger adults in Alberta, Vancouver and Toronto. Respondents in the study’s focus groups emphasized concerns about and a commitment to combating climate change and prioritized the reduction of fossil fuel consumption. Additionally, those in the focus groups consistently estimated that around 40 per cent of Albertans work directly in oil and gas extraction.<sup>2</sup> When asked to describe Alberta, 29 per cent of those outside Alberta, and 18 per cent of Albertan respondents, named oil and gas first.<sup>3</sup> In reality, the mining and oil and gas extraction industry made up 6.2 per cent of total employment in 2021.<sup>4</sup>

In 2022, the sector faces increased hiring challenges with “[l]about demand outstripping labour supply,” and 3,400 unfilled positions according to PetroLMI’s *Careers in Energy*.<sup>5</sup> Several factors are on the minds of people as they consider the sector’s career opportunities. In addition to the environmental concerns of youth, PetroLMI also cites concerns over job stability given the cyclical and seasonal nature of the sector citing commodity price drops as reasons older workers are hesitant to return to or enter the sector.<sup>6</sup>

Oil and gas will be part of the Alberta economy for decades, but the sector is transforming into a cleaner and greener industry than it was when the youth of today’s parents began their careers in the sector. One example of this is that oilsands producers have committed to achieving net zero greenhouse gas emissions in their operations by 2050, mostly through the use of carbon capture, utilization and storage infrastructure. Two U.S.-based EY studies from 2017 found that 56 per cent of youth view oil and gas to be their parents’ fuel and 62 per cent stated they have no interest in working within the energy sector. The environmental concerns expressed by youth and many others are being addressed in Alberta.<sup>7</sup>

The cleaning and greening of the oil and gas sector is not the only reason youth should be attracted to Alberta. There are many sectors that provide good career choices and offer meaningful work and the means to build a good life. Some of these are spotlighted in the following infographic, which covers only a portion of the exciting developments in the Alberta economy.

# The places youth could go

## Opportunities in Alberta's diversified economy

### Artificial Intelligence (AI) & High Tech

#### SNAPSHOT

**3,083**

technology companies are now headquartered in Alberta

**149%**

increase since 2018

- 80% in industry have a Master's & over 40% PhDs
- 6,478 new tech degree grads needed in Edmonton area today

#### FUTURE OUTLOOK

The Government of Alberta's Technology & Innovation Strategy sector goals for 2030 include:

- 20,000 new jobs
- \$5 billion more in annual revenue

Research and commercialization priorities are:

- Energy, minerals and clean-tech
- Agriculture
- Health and disease prevention
- Emerging technologies

#### IN-DEMAND JOBS/EDUCATION

- PhD level software and web developers or architects
- MBA level business experts
- Undergrad/MSC level developers specialized in AI/Machine learning systems

#### LOCAL EXAMPLES

Edmonton's [Alberta Machine Intelligence Institute \(Amii\)](#) is one of three centres partnered on the Pan-Canadian AI strategy

Robotics supply chain company [Attabotics](#) is based out of Calgary and provides warehouse solutions

Data analytics company [Hölmetrics](#) uses machine learning and AI to measure organizational wellness



### Healthcare

#### SNAPSHOT

- The pandemic caused a backlog of people seeking healthcare education and students waiting for practicums
- Alberta and other provinces are adding seats

#### FUTURE OUTLOOK

Retirements of health care workers and health needs of an aging population will increase demand for health care workers

#### IN-DEMAND JOBS/EDUCATION

By 2028 Alberta needs an additional:

- 3,162 licensed practical nurses
- 2,885 registered nurses and registered psychiatric nurses
- 1,762 medical laboratory technicians and pathologists' assistants
- 1,214 medical administrative assistants

**9,644**

additional nurses aides AND other support staff by 2028

#### LOCAL EXAMPLES

Edmonton-based [Alberta Diabetes Institute](#) is Canada's largest standalone diabetes research facility

[Health Technology Commercialization Hub](#) is a Calgary-based health technology accelerator

[Alberta Health Services](#) (AHS) is the largest integrated provincial health care system in the country



### Life Sciences

#### SNAPSHOT

**25%**

of companies started in last 2 years

**59.1%**

of companies started last 6 years

**60%**

of Alberta's life science companies are in metro Edmonton

**110**

life science companies in Calgary

#### FUTURE OUTLOOK

- By 2029 BC/AB staff shortages in manufacturing, logistics, marketing and management
- Business and sales development hardest to fill in Alberta so not just science degrees needed

#### IN-DEMAND JOBS/EDUCATION

**32.6%** Bachelor's

**23.7%** Master's

**25%** PhD's



Demand for advanced degrees going up

#### LOCAL EXAMPLES

[Li Ka Shing Institute of Virology](#) and the [Applied Virology Institute](#) in Edmonton

University of Calgary's [Life Sciences Innovation Hub](#) provides space for researchers to build life-sciences companies and get products to market

[Allos BioScience](#) in Lethbridge builds custom research and diagnostic biosensors



# Live & Play in Alberta

In 2022, Edmonton and Calgary ranked in the top 10 most affordable cities in the world

Edmonton and Calgary both made the top 100 world's best cities to live and visit

Alberta has 6 UNESCO World Heritage Sites, the most of any province

Edmonton is home to the largest connected urban parkland in North America while Calgary has the most sunny days in the country

Banff National Park is Canada's oldest national park while Jasper National Park is the country's largest

# Food & Agriculture

## SNAPSHOT

- 57,195 Alberta farm operators in 2021
- 37.9% of farm operators in Alberta are under the age of 54. 8.34% under the age of 35
- 29,601 paid farm employees in Alberta in 2021, 66.03% are not family members:
  - 53.04% full-time
  - 17.79% part-time
  - 29.16% seasonal/temporary

## FUTURE OUTLOOK

- 2 in 5 workers (42%) lost to retirement
- 1 in 3 agriculture jobs unfilled in Alberta by 2029
- 5,600 jobs unfilled in beef industry
- 2,500 jobs unfilled in grain and oilseed
- 2,800 jobs unfilled in greenhouse, nursery and floriculture

## IN-DEMAND JOBS/EDUCATION

- Managers, particularly owner/operators and hired operators
- General farm workers
- Technology workers with sector specific expertise

## LOCAL EXAMPLES

[Agri-Value Processing Business Incubator \(APBI\)](#) in Leduc supports start up and scale up of agri-food business

[GoodLeaf Farms](#) commercial vertical farm warehouse in Calgary

[More Than Protein](#) Ingredients Ltd. (MTP) plant-processing facility to convert legumes into plant-based protein power

**\$9.68B**  
contribution to Alberta GDP in 2020

# Energy

## SNAPSHOT

- Cleaner and greener energy, oil and gas or renewables

## FUTURE OUTLOOK

- Leadership and human soft skills less automated
- Technical, field operations more automated which will change the types of jobs and competencies needed
- The Canadian Energy Regulator estimates Alberta will lead the country in renewable energy adoption, primarily through wind and solar, by 2023

## IN-DEMAND JOBS/EDUCATION

- The clean-tech sector will need workers with specialized skills like engineers and business experts like accountants
- Digitalization will require technology workers, like data scientists, with sector-specific expertise
- Those who have worked in traditional oil and gas can upskill and reskill to certain clean-tech sub sectors and jobs

## LOCAL EXAMPLE

[Edmonton Region Hydrogen HUB](#) projects focused on production, transportation and end use of hydrogen

Calgary-based [Eavor Technologies Ltd.](#) has developed the Eavor-Loop for geothermal energy

Alberta-based [Energy Futures Lab](#) works to build the province's future sustainable and equitable energy system

**170,000**

new clean tech jobs – demand will vary by subsector

**Carbon capture, utilization and storage subsector will face a greater labour shortage than other subsectors by 2030**



# Film, TV & Interactive Digital Media

## SNAPSHOT

- 1,300 Albertans employed at video game studios in 2021
- 4 ACTRA\*-staffed film & tv projects wrapped in 2022
- 7 ACTRA\*-staffed film and tv projects in production in 2022

## FUTURE OUTLOOK

- 4,000 additional film & tv crew positions by 2030 as the sector grows and retirements occur
- The Alberta government announced a \$225 million total film and tv tax credit from 2022-2025
- Policy direction may influence the growth trajectory of the digital media sector
- Edmonton's strong AI and growing eSports communities could see new opportunities for collaboration

## POSSIBLE JOBS

Film and TV production jobs include pre-production and production jobs like film crew, cast, and sets and post-production jobs like sound and graphics and visual effects

Interactive Digital Media jobs include technical roles such as game developers and software engineers to arts roles such as digital media designers and animators

## LOCAL EXAMPLES

[BioWare Edmonton](#) has produced video games since 1996 including *Mass Effect* and *Dragon Age*

[F&D Scene Changes](#) in Calgary provide fabrication services for film and tv sets, museums, theaters and others

[Simulacrum Interactive](#) in Lethbridge uses interactive digital media and virtual reality technology for game development and business applications

**88**

Alberta-based video game studios in 2021



\*Alliance of Canadian Cinema, Television & Radio Artists

Images: Unsplash

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## What the data tell us

### Diversification of the economy is well underway in Alberta

Thousands of jobs in exciting new or changing sectors are already available, with more to be created over the next decades. Alberta expects future growth in the spotlighted sectors as well as the broader creative industries, aerospace, construction and global logistics. These sectors present long-term career potential for youth of all educational attainment levels to establish themselves and build a life in the province.

### Alberta needs a diverse, tech-savvy workforce

Digitalization and automation will require individuals who understand how to work with ever increasing and improved technology. This integration of humans and machines does not require everyone to have a computer science degree to qualify for a job, but candidates should understand how technology helps to solve problems in whatever business sector they wish to work.

### Cross-training is the new imperative

Functional roles such as sales and marketing, business analysis and development, information technology, administration and management are in high demand in all sectors. The best candidates for these jobs will have competencies in functional areas as well as the knowledge needed to use these competencies in a specific industrial sector. Students should consider combining courses toward a minor in different areas of study. Cross training for both functional and sectoral competencies can also be gained through work-integrated learning.



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## Conclusions

Perceptions become reality when they are echoed in the social media feeds and conversations with friends and family that are a youth's main sources of information. The perception that Alberta's economy offers little to youth beyond a job in oil and gas may not reflect reality – but it is truth to youth in Alberta and in major centres across the country. Alberta has tens of thousands of jobs available, many in sectors that are very attractive to youth no matter what their level of education. Overcoming this perception will take a concerted effort by multiple stakeholders to broadcast Alberta's diverse stories to the world.

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## Recommendations

### Governments at all levels

- Improve the granularity, timeliness and availability of labour market information (LMI) and base the information on the competencies required for success.
- Introduce modern tools, including apps, to communicate Alberta's LMI to tech-savvy youth locally, provincially and internationally, while also ensuring that employers and educators understand the trends in labour market demand.

### Secondary school systems

- Support students to build profiles of their interests and competencies.
- Overhaul Career and Life Management Curriculum to actively engage students in learning about the diverse sectors and job roles available in the Alberta economy and about the careers in which they may be most interested and successful.

### Post-secondary institutions and training providers

- Encourage more students to pursue inter-disciplinary learning that develops functional competencies applicable in multiple sectors.
- Work with employers and governments to provide all students with experiential and work-integrated learning opportunities in rapidly changing and emerging sectors.
- Build capacity to provide life-long and life-wide competency development that reflects the needs of industry now and in future.

## Employers

- Engage youth in Alberta and across Canada in new ways through social media, at school and elsewhere about work in their industry sector, how to prepare for it, and what to expect from it.
- Develop community mentorship programs to help youth seed early networking and growth opportunities.
- Build more diverse and welcoming workplaces that attract and retain young talent with a wide range of lived experience.
- Clearly communicate labour market information in terms of competencies.

## Youth

- Explore possible sectors and jobs of interest.
- Find ways to build competencies in sectors of interest through on-the-job training, internships, mentorships, etc. and reflect on learning achieved.
- Understand current competencies and competencies needed to build for the next stage in their career development.
- Develop life-long learning competencies and the flexibility and adaptability to take non-linear pathways in career development.

As the Alberta workforce development ecosystem works to solve the recent problem of youth talent attraction and retention, it will challenge the perceptions that youth currently hold and share with them the reality – that there are multiple, meaningful and increasingly diverse pathways to success within the province.

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## Citations

### MAIN BODY

- <sup>1</sup> Lane, Janet, Laverty, Stephany, and Dr. David Finch. 2022. Work to Live: Alberta youth mobility. Calgary: Canada West Foundation. [https://cwf.ca/wp-content/uploads/2022/03/CWF\\_WorktoLive\\_Report\\_MAR2022-1.pdf](https://cwf.ca/wp-content/uploads/2022/03/CWF_WorktoLive_Report_MAR2022-1.pdf)
- <sup>2</sup> Ibid
- <sup>3</sup> Ibid
- <sup>4</sup> Statistics Canada. Table14-10-0023-01 Labour force characteristics by industry, annual (x 1,000)
- <sup>5</sup> Careers in Energy. "Labour demand outstripping labour supply in Canada's energy services sector." PetroLMI, November 25, 2021. <https://careersinenergy.ca/news/labour-demand-outstripping-labour-supply-in-canadas-energy-services-sector/>
- <sup>6</sup> EY Global Ltd. 2017. How can oil and gas fuel tomorrow as well as today? [https://assets.ey.com/content/dam/ey-sites/ey-com/en\\_us/topics/oil-and-gas/ey-bmc-oil-and-gas-survey-v11-web.pdf](https://assets.ey.com/content/dam/ey-sites/ey-com/en_us/topics/oil-and-gas/ey-bmc-oil-and-gas-survey-v11-web.pdf)
- <sup>7</sup> EY Global Ltd. 2017. How do we regenerate this generation's view of oil and gas?; [https://assets.ey.com/content/dam/ey-sites/ey-com/en\\_gl/topics/oil-and-gas/ey-how-do-we-regenerate-this-generations-view-of-oil-and-gas.pdf](https://assets.ey.com/content/dam/ey-sites/ey-com/en_gl/topics/oil-and-gas/ey-how-do-we-regenerate-this-generations-view-of-oil-and-gas.pdf)

### INFOGRAPHIC

#### Artificial intelligence (AI) and High Tech

Alberta Enterprise and PWC. 2021. 2021 Alberta Technology Deal Flow Study. <https://www.alberta-enterprise.ca/wp-content/uploads/2021/04/AEC-Deal-Flow-Report-2021-April-21.pdf>

CBRE Research. 2021. Scoring tech talent. <https://www.cbre.us/-/media/cbre/countryunitedstates/us-research/major-reports/2021/scoring-tech-talent-media-folder/2021-scoring-tech-talent.pdf>

Hamoni, Rosina et al. March 2021. "Building Canada's future AI workforce: In the brave new (post-pandemic) world. Ottawa: Information and Communications Technology Council. [https://www.ictc-ctic.ca/wp-content/uploads/2021/04/ICTC\\_Report\\_Building\\_ENG.pdf](https://www.ictc-ctic.ca/wp-content/uploads/2021/04/ICTC_Report_Building_ENG.pdf)

## Healthcare

Ministry of Health. February 2022. "Hundreds of new nursing training seats coming provincewide." Government of British Columbia. <https://news.gov.bc.ca/releases/2022HLTH0004-000250>

CBC News. "Manitoba spending \$19.5M to increase number of nurse training seats by more than 30%." CBC-Radio Canada, December 15, 2021. <https://www.cbc.ca/news/canada/manitoba/manitoba-government-nurses-st-boniface-university-1.6286986>

Government of Nova Scotia. "Increase in Nursing Seats at Cape Breton University." Health and Wellness, July 2, 2021. <https://novascotia.ca/news/release/?id=20210702001>

University of Prince Edward Island. "Government of PEI supports nursing program, health centre expansion, and new faculty of medicine at UPEI." Online, October 8, 2021. <https://www.upei.ca/communications/news/2021/10/government-pe-i-supports-nursing-program-health-centre-expansion-and-new>

Government of Alberta. October 2019. Alberta's occupational outlook 2019-2028. <https://open.alberta.ca/dataset/8987e228-9ffa-4a2e-9f79-a9b869df2ccb/resource/502659ff-47fb-4ce3-94db-6a0c2ff1722c/download/lbr-albertas-occupational-outlook-2019-2028.pdf>

## Life Sciences

Edmonton Global. 2022. "Life Sciences." <https://edmontonglobal.ca/life-sciences/>

Calgary Economic Development. January 2021. Life sciences value proposition and competitiveness study. <https://www.calgaryeconomicdevelopment.com/assets/Uploads/calgary+life-sciences+value-proposition-and-competitiveness-study-v2.pdf>

Deloitte. 2021. Life sciences in Alberta: State of the industry 2021. Edmonton: BioAlberta. <https://www.bioalberta.com/uploads/files/2021%20BioAlberta%20State%20of%20the%20Industry%20Final%20Report%20Nov%2010%202021.pdf>

Biotalent Canada. December 2021. "Regional Spotlight: Western Canada." Close up on the bioeconomy: Labour market Intelligence. <https://www.biotalent.ca/wp-content/uploads/BioTalent-Canada-LMI-Regional-Western-06DEC2021.pdf>

## Food and Agriculture

Statistics Canada. "Key indicators: Alberta." Census of Agriculture, last modified June 2, 2022. <https://www.statcan.gc.ca/en/census-agriculture>

Statistics Canada. "2021 Farms, farm operators and paid labour." Census of Agriculture: Farm and farm operator data visualization tool, last modified May 16, 2022. <https://www150.statcan.gc.ca/n1/pub/71-607-x/71-607-x2022006-eng.htm>

Canadian Agricultural Human Resources Council. 2019. How labour challenges will shape the future of agriculture in Alberta: Agriculture forecast to 2029. [https://cahrc-ccrha.ca/sites/default/files/2021-11/AB\\_EN\\_Reduced%20size.pdf](https://cahrc-ccrha.ca/sites/default/files/2021-11/AB_EN_Reduced%20size.pdf)

Delphi Group. November 2021. Alberta energy transition. Calgary Economic Development and Edmonton Global.

[https://www.calgaryeconomicdevelopment.com/assets/Reports/Sectors/Energy-Environment/CED-2021\\_EnergyTransition\\_Report.pdf](https://www.calgaryeconomicdevelopment.com/assets/Reports/Sectors/Energy-Environment/CED-2021_EnergyTransition_Report.pdf)

Cowley, Paul. "\$160 million protein processing plant coming to Bowden." Red Deer Advocate, April 7, 2022. <https://www.reddeeradvocate.com/news/160-million-protein-processing-plant-coming-to-bowden/>

## Energy

EY and PetroLMI. 2020. "Foreward from EY." Preparing for the future now: Rethinking the oil and gas workforce in 2040. [https://assets.ey.com/content/dam/ey-sites/ey-com/en\\_ca/topics/oil-and-gas/ey-rethinking-the-oil-and-gas-workforce-in-2040.pdf?download](https://assets.ey.com/content/dam/ey-sites/ey-com/en_ca/topics/oil-and-gas/ey-rethinking-the-oil-and-gas-workforce-in-2040.pdf?download)

Delphi Group. November 2021. Alberta energy transition. Calgary Economic Development and Edmonton Global.

[https://www.calgaryeconomicdevelopment.com/assets/Reports/Sectors/Energy-Environment/CED-2021\\_EnergyTransition\\_Report.pdf](https://www.calgaryeconomicdevelopment.com/assets/Reports/Sectors/Energy-Environment/CED-2021_EnergyTransition_Report.pdf)

Careers in Energy. "The Energy Transition: The Clean Energy Opportunity." Outlook 2021-2023, March 22, 2021. <https://careersinenergy.ca/news/the-energy-transition-the-clean-energy-opportunity/>

## Film, TV, & Interactive Digital Media

Alliance of Canadian Cinema, Television and Radio Artists. "What's shooting in Alberta." ACTRA Alberta, 2022. <https://www.actraalberta.com/whats-shooting/>

Alberta Media Production Industries Association. "Jobs, jobs, jobs." AMPIA, 2022. [https://ampia.org/?page\\_id=17453](https://ampia.org/?page_id=17453)

Calgary Economic Development data.

Alberta eSports Association. 2021. 2020 annual impact report: June 2020 to July 2021. <https://static1.squarespace.com/static/5e93d71aef75447348108ec2/t/6193e2341aef91ba4aeeb80/1637081668328/2020+Annual+Impact+Report+-+AESA.pdf>

Nordicity. October 2021. The Canadian video game industry 2021. Entertainment Software Association of Canada. <https://theesa.ca/wp-content/uploads/2021/11/esac-2021-final-report.pdf>

Toy, Adam. "Alberta to hand out \$225M in film and television tax credits by 2025." Global News, updated May 17, 2022. <https://globalnews.ca/news/8842869/alberta-film-television-tax-credit-expansion/>

Cook, Stephen. "Alberta video game developers say industry is being left behind in province." CBC News, updated March 1, 2022. <https://www.cbc.ca/news/canada/edmonton/alberta-video-game-developers-say-industry-is-being-left-behind-in-province-1.6367800>

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