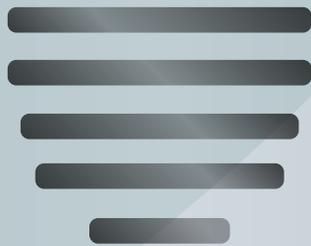


UNIVERSITY OF ALBERTA

# INNOVATION

## TASK FORCE REPORT



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# THE UNIVERSITY OF ALBERTA (UALBERTA) HAS BEEN DRIVING INNOVATION FOR MORE THAN 100 YEARS. IT IS WHAT WE DO. IT IS WHO WE ARE.

**We push the boundaries of knowledge and create the future through our research, teaching and innovation—the outcomes of which have helped shape our world and improve lives, at home and around the world.**

While innovation is core to our research and education mandate, it has become a top priority for many of our stakeholders including government, funders, students, next-generation researchers, the public and many of our partners. It is also becoming increasingly central to government, funder and partner discussions, and funding programs.

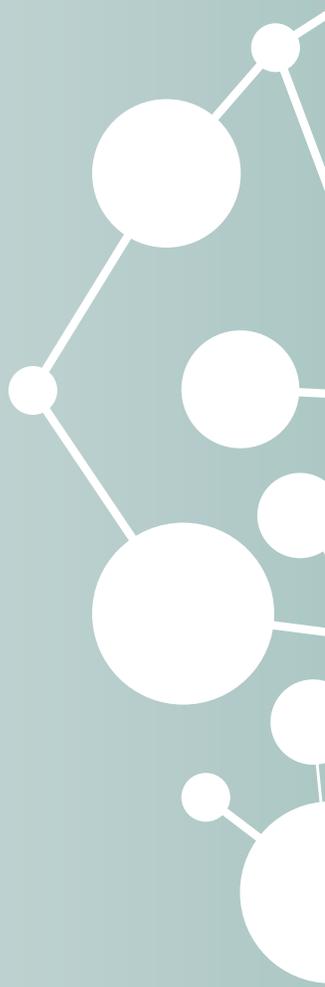
To better harness the university’s intellectual power and transform our research-driven ideas and discoveries into social and economic impacts, the vice-president (research) struck a task force in 2019 to examine the university’s broad innovation ecosystem. The motivations behind the task force creation included the:

**NEED FOR** intellectual property (IP) clarification, literacy and education.

**RECOGNITION** that our knowledge transfer roles and our related innovation, entrepreneurship and commercialization responsibilities and processes could be strengthened, integrated and aligned.

**ENSURING** our innovation, entrepreneurship and commercialization programs, services and skill development opportunities best serve and support our faculty, staff and students.

**NEED TO** provide the opportunities to explore and experience innovation and entrepreneurship that students, post-doctoral fellows and many researchers are seeking.



# ABOUT THE TASK FORCE

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**WHILE INNOVATION TAKES MANY FORMS, the task force's key focus was on entrepreneurship, commercialization and technology transfer. As a result, the task force was mandated to:**

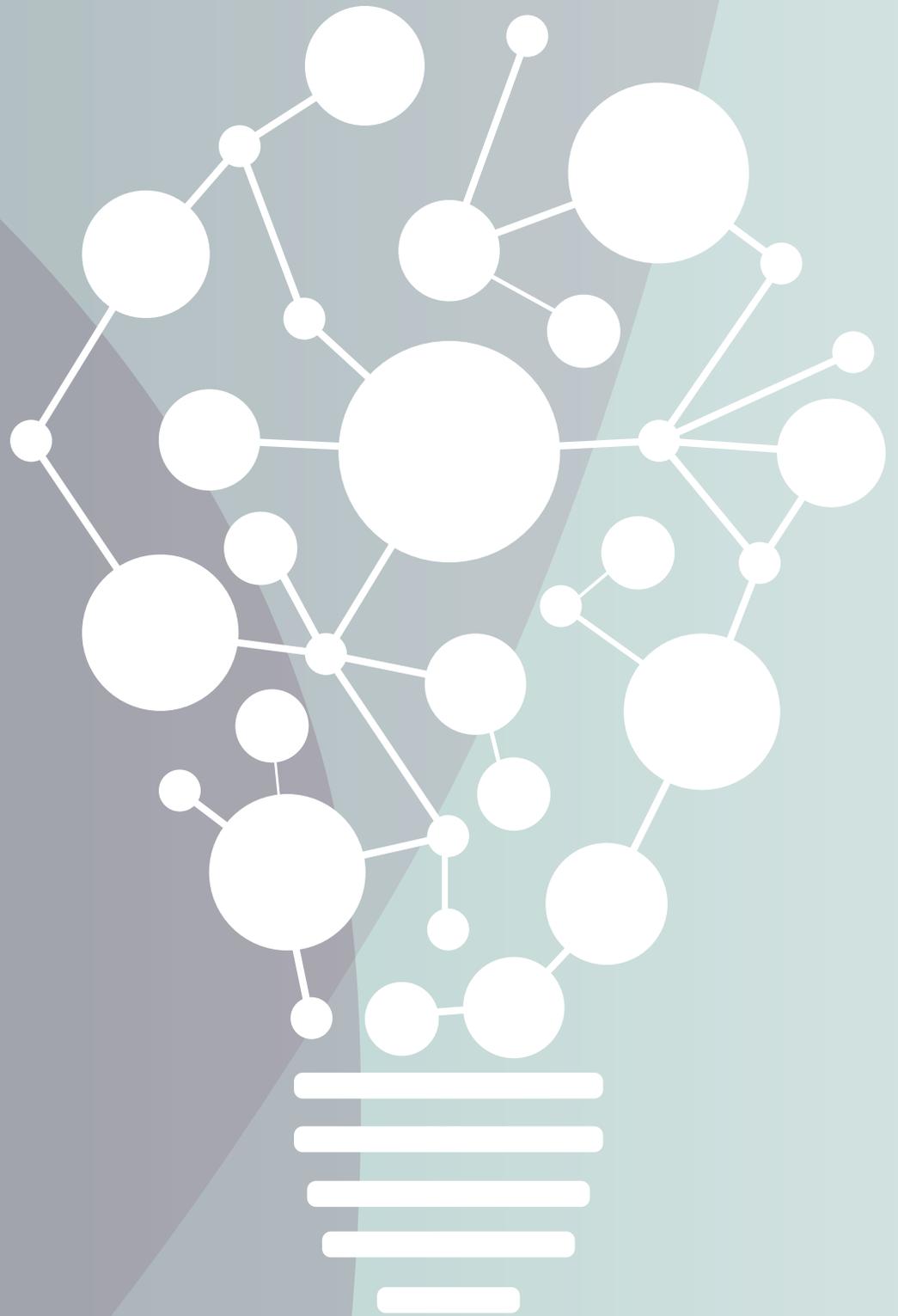
- Inventory entrepreneurship and commercialization programs, services and activities.
- Assess alignment, overlap and competition with external services.
- Identify gaps in the ability to support and promote innovation, entrepreneurship and commercialization.
- Identify potential funding opportunities to fuel innovation, entrepreneurship and commercialization activities.
- Identify strategies to fill identified gaps, align activities and improve the effectiveness and efficiency by which the university creates impact through innovation, entrepreneurship and commercialization.
- Identify mechanisms to build and foster a vibrant culture of innovation, entrepreneurship and knowledge translation across the university.
- Address student, post-doctoral fellow and faculty needs across the innovation pipeline.

The Task Force team comprised experts and stakeholders from the university, TEC Edmonton, and Alberta's entrepreneurial ecosystem and investment community. The team drew on interviews, literature review, invited speakers, and information from other task forces and committees including the Alberta Research and Innovation Advisory Committee, the City of Edmonton Community Task Force (instituted to assess TEC Edmonton's mission and business model) and the Association of University Technology Managers.

The task force sought to address the innovation pipeline from idea creation (ideation) to company creation (spinoff/startup) and scaling, recognizing that the needs of a student or a professor with an idea will differ greatly from a startup looking to scale.



**INNOVATION IS THE CREATION AND USE OF NEW SOLUTIONS THAT IMPROVE LIFE AND ADVANCE SOCIETY. IT TAKES THE FORM OF NEW METHODS, PROCESSES OR PRODUCTS, OR NOVEL APPLICATIONS OF EXISTING METHODS, PROCESSES OR PRODUCTS, TO CREATE VALUE ABOVE EXISTING ALTERNATIVES.**



# STRATEGIC DRIVERS

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**INNOVATION, ENTREPRENEURSHIP AND COMMERCIALIZATION** play a central role in our research and teaching mandate, and are key priorities for many of our external stakeholders including government, funders, students, next-generation researchers, the private and non-profit sectors, and the public.

For example, research grants increasingly require an innovation and commercialization component, many of our partners are innovation and IP-focused, and students seek experiential learning opportunities. In addition, many external bodies are calling for an increase in innovation and commercialization—e.g., the Institute for Research on Public Policy (IRPP) calls on Canadian universities to take responsibility for innovation through research commercialization and university-industry relationships to help Canada remain competitive in our globalized world.

The university's strategic plan embeds innovation, entrepreneurship and commercialization within it—calling on us to play a lead role in placing Canada at the global forefront of knowledge creation and mobilization—and notes key values of creativity and innovation, from idea to implementation. The plan's objective 11 includes strategies to support a culture of innovation and entrepreneurship for students, faculty and staff, as well as enhancing translational initiatives and idea exchange through various means including mentoring, commercialization services, and meeting spaces and events.

**THE UNIVERSITY'S STRATEGIC PLAN EMBEDS INNOVATION, ENTREPRENEURSHIP AND COMMERCIALIZATION WITHIN IT AND NOTES KEY VALUES OF CREATIVITY AND INNOVATION, FROM IDEA TO IMPLEMENTATION.**

# RECOMMENDATIONS

**THE TASK FORCE'S RECOMMENDATIONS**, and associated high-level strategies to help achieve them, are listed below, in no particular order. An implementation plan and progress metrics will now be developed.

## **MAKE INNOVATION AND COMMERCIALIZATION AN INSTITUTIONAL PRIORITY.**

To build and foster a strong innovation culture within the university (faculty, staff and students) it is imperative that innovation and entrepreneurship be elevated, modelled, championed and celebrated at the institutional level as a key priority.

## **ENHANCE AND PROMOTE MENTORSHIP SERVICES.**

Mentoring is key to creating and sustaining a strong innovation culture. As such, the university should promote the development and increased use of campus mentorship programs and activities. See appendix for a list of current supports and services.

# 1 CULTIVATE AND BUILD INNOVATION CULTURE AND CAPACITY

**RENAME THE VICE-PRESIDENT (RESEARCH) TITLE AND PORTFOLIO TO VICE-PRESIDENT (RESEARCH AND INNOVATION).**

**DEDICATE AN ASSOCIATE VICE-PRESIDENT WITHIN THE VICE-PRESIDENT RESEARCH PORTFOLIO TO FOCUS ON INNOVATION, ENTREPRENEURSHIP AND COMMERCIALIZATION.**

## **ALIGN, COORDINATE AND ENHANCE UALBERTA INNOVATION SUPPORTS AND SERVICES.**

The university provides diverse innovation and entrepreneurship supports and services including mentorship, collision spaces, maker spaces, workshops, activities and events. To provide the best service and user experience possible, we must optimize, align, connect and co-ordinate our various supports and services. See appendix for a list of current supports and services.

**FOCUS TEC EDMONTON ON INVESTMENT-READY ACTIVITIES BY IMPROVING:**

- Connections to investors and industry partners.
- Incubator space and services.
- Services to help university spinoffs to scale and grow.



**2  
STREAMLINE  
TEC EDMONTON**

**IDENTIFY RESPONSIBILITIES/TASKS REQUIRED TO MEET TEC'S MANDATE TO ADVANCE INVESTMENT-READY ENTITIES.**

Identify which responsibilities/tasks should return to the university to meet the mandate of promoting entrepreneurship and commercialization.

**STRENGTHEN AND EXPAND UNIVERSITY ASSISTANCE**

to faculty, students and staff to develop their ideas and technologies to a stage where they can graduate to TEC.

**THERE IS WIDESPREAD AGREEMENT** within the university, and externally, about the need to sharpen TEC Edmonton's mandate and better align it with other university activities, as well as with municipal and provincial interests.

**ESTABLISH GUIDELINES FOR USE OF INCUBATOR SPACE BASED ON COMPANY DEVELOPMENT STAGES.**

**IMPROVE HOW TEC EDMONTON ENGAGES WITH INDUSTRY AND INVESTOR COMMUNITIES.**

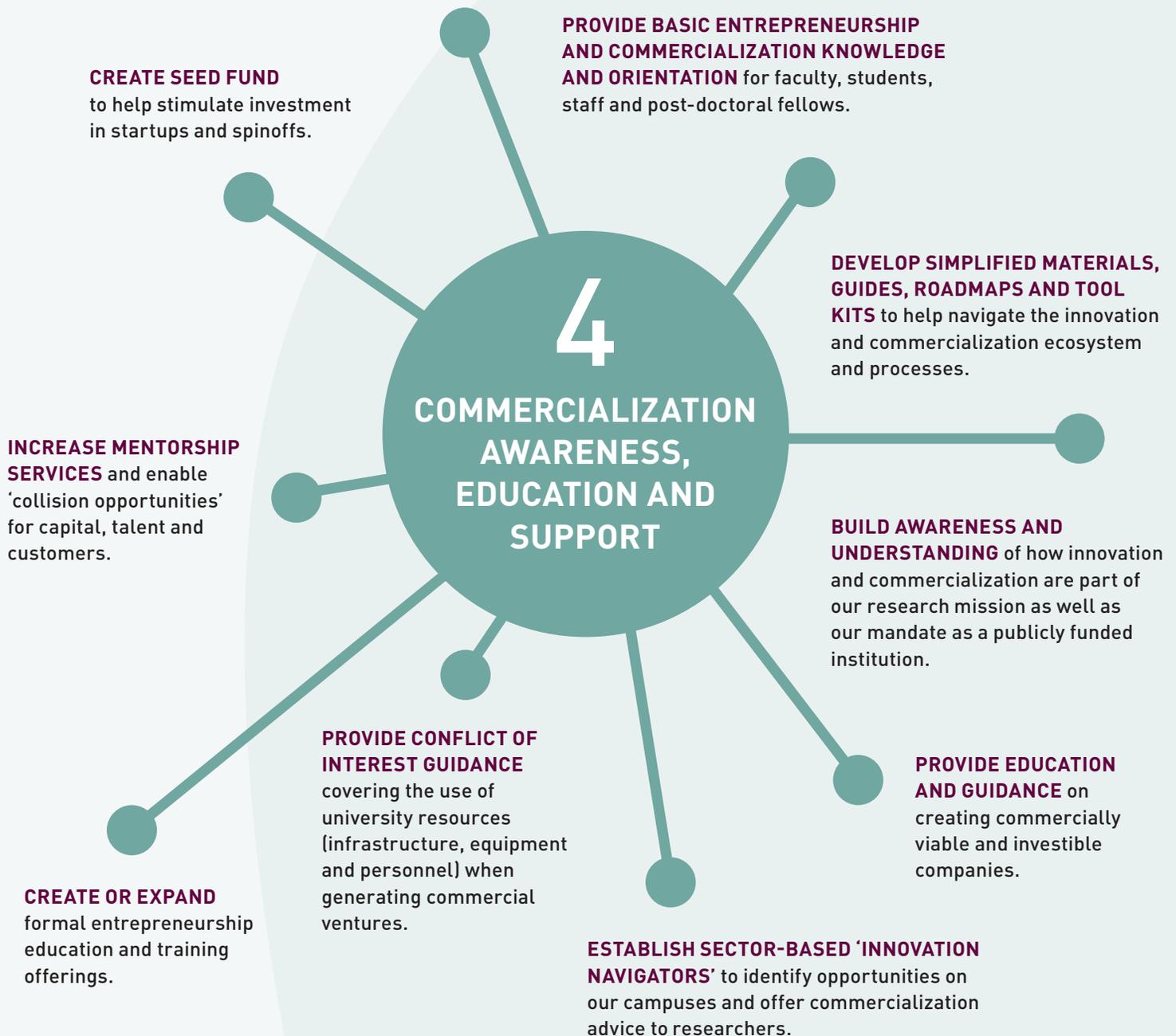
**TEC EDMONTON** illustrates the value of partnership between the academic community and entrepreneurial, investment and industry partners. TEC Edmonton provides IP management, patent application, licensing, and spinoff creation support and services, as well as business development, industry relationship management, and angel and venture capital attraction. It also hosts the university's incubator space for new small businesses.

To improve its IP management and technology transfer, the university must:



**THE COMMERCIALIZATION PROCESS**—from IP creation to spinoff creation and growth—is fraught with complexity and uncertainty, and is difficult to navigate. To complicate matters, basic IP and commercialization literacy and knowledge are lacking among many university community members. Moreover, because commercialization is a key priority for government funders, industry and many international partners, it would be very beneficial for all UAlberta researchers to have a general understanding of the technology transfer and commercialization process.

Strategies to improve knowledge and foster commercialization include:

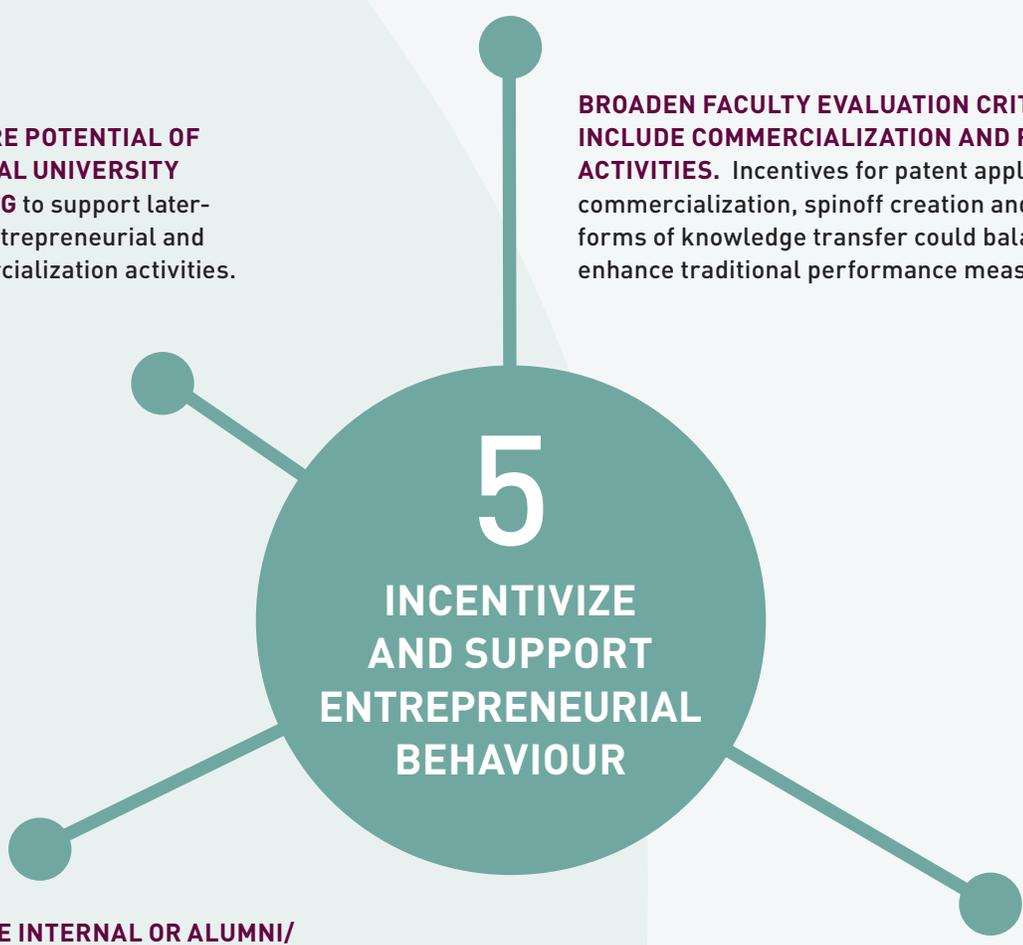


**RESEARCH PUBLICATIONS** are a key measure of academic output and value at the university; entrepreneurial activity should be, too. This would motivate and incentivize faculty to transfer more research-driven knowledge, innovations and technologies into society.

Potential programs, incentives and supports include:

**EXPLORE POTENTIAL OF INTERNAL UNIVERSITY FUNDING** to support later-stage entrepreneurial and commercialization activities.

**BROADEN FACULTY EVALUATION CRITERIA TO INCLUDE COMMERCIALIZATION AND RELATED ACTIVITIES.** Incentives for patent applications, commercialization, spinoff creation and other forms of knowledge transfer could balance and enhance traditional performance measures.



**5**  
**INCENTIVIZE  
AND SUPPORT  
ENTREPRENEURIAL  
BEHAVIOUR**

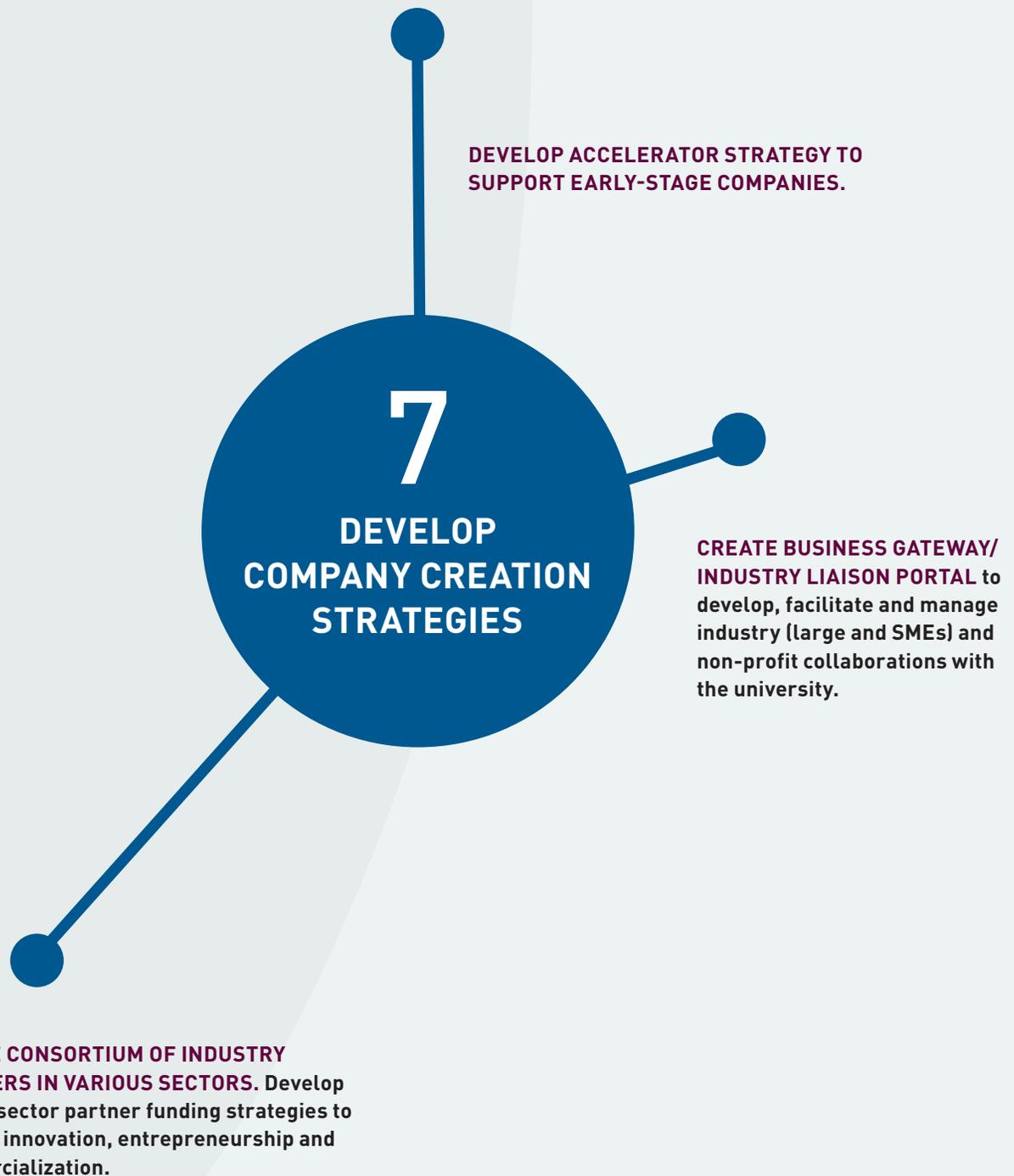
**PROVIDE INTERNAL OR ALUMNI/ DONOR-FUNDED SEED GRANT PROGRAMS** (along the lines of UBC's fund, for example) to support company creation and commercialization activities, as early investment is critical in helping spinoffs build momentum.

**PROVIDE TEACHING RELEASE AND 'INNOVATION SABBATICALS' TO PURSUE ENTREPRENEURIAL ACTIVITIES.**

**THE UNIVERSITY HAS A STRONG COMMERCIALIZATION RECORD.** Showcasing that record and building our profile as an innovation and commercialization powerhouse requires dedicated and regular focus. Additionally, as entrepreneurial activities tend to be underappreciated within the university’s research community, celebrating and profiling successes could help cultivate a greater appreciation of commercialization activity and impact.



**PARTNERSHIPS AND COLLABORATIONS** are crucial to building successful companies. Therefore, building industry relationships and developing company accelerator programs will be key to transferring UAlberta ideas, knowledge, discoveries and innovations out of the institution to create new companies and jobs that will drive prosperity.



# NEXT STEPS

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Many of the task force's recommendations and desired outcomes will be a longer-term process and will, in many cases, rely on collaboration, partnership and available resources. However, some immediate measures can be taken:

- **RENAME THE VICE-PRESIDENT RESEARCH TITLE AND ASSOCIATED PORTFOLIO.**

COMPLETED

- **DEDICATE AN ASSOCIATE VICE-PRESIDENT TO FOCUS ON INNOVATION, ENTREPRENEURSHIP AND COMMERCIALIZATION.**

COMPLETED

- **SIMPLIFY COMMERCIALIZATION TERMS.**

COMPLETED

- **ALIGN, INTEGRATE AND CO-ORDINATE THE UNIVERSITY'S MANY INNOVATION AND ENTREPRENEURSHIP ASSETS.**

IN PROGRESS

- **DEVELOP MECHANISMS TO:**

- collect and evaluate information regarding what is and is not working,
- gather outcome metrics, and
- evaluate activities at other universities to remain competitive.

IN PROGRESS

# APPENDIX

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## MENTORSHIP SERVICES, SPACES, AND CAMPUS AND COMMUNITY EVENTS

**The university provides many mentorship opportunities via services, spaces and events. The following opportunities and services are available to students, post-doctoral fellows, faculty and staff:**

### Spaces and Services

**ThresholdImpact Venture Mentoring Service (VMS):** Modelled after MIT's program, UAlberta's VMS helps develop, inspire and empower entrepreneurs by connecting them with experienced mentors. This program supports entrepreneurs running growing, scalable ventures, and is open to all university members (undergraduate, graduate, post-doctoral fellows, faculty and staff).

**eHUB:** Offers resources, funding, networking and mentorship opportunities for undergraduate, graduate and post-doctoral fellows. Members have the opportunity to explore ideas that will transform into projects, initiatives and ventures. eHUB supports several entrepreneurial student communities including eClub, Enactus and eGrad.

**The Pod:** Provides educational and professional development opportunities for students outside their normal course of study. The Pod provides advanced facilities and guidance that augment campus maker spaces and advance and support entrepreneurial initiatives through testing, prototyping, mentorship, workshops, partnerships, and access to equipment for testing, evaluating, and realizing design

concepts. Pod mentors are alumni and faculty who are passionate about innovation and the potential of students and new graduates.

**UAlberta Health Accelerator:** Delivers mentoring and programming to advance health science ideas and technologies with business and entrepreneurship support and training. The Accelerator also includes access to laboratory and office space at TEC Centre Labs. The program supports and inspires health science innovators (students, post-doctoral fellows, faculty and staff).

**Technology Commercialization Centre (TCC):** Nurtures tech-entrepreneurs and future leaders through skill development and provides resources required to enhance innovation and technology commercialization practices. TCC oversees the student eHUB program and Rural eHUB, and provides mentorship and support services for Mitacs post-doctoral entrepreneur companies. TCC also fosters university research and industry connections, and stimulates technology entrepreneurship through partnerships with key stakeholders such as TEC Edmonton, Startup Edmonton and Alberta Innovates.

**Student Innovation Centre:** Provides 5,000+ sq. ft. of space for extracurricular science and technology-based competitions, maker projects and undergraduate student-led ventures. The Centre is designed to empower students to think creatively and provide support from early ideation to the transition to entrepreneurship. The space offers resources including bookable project rooms, conferencing capabilities, and equipment such as 3D printers, microscopes and high-spec computers for machine learning, VR/AR and graphics processing. The centre also hosts workshops, seminars and events.

**The Shack:** Offers 3D printing and Computer Numerical Control (CNC) milling equipment access, as well as public outreach events, including summer camps for junior high and high school students.

**Elko Engineering Garage:** A makerspace and machine shop for students interested in pursuing projects outside their regular studies. The Garage provides access to a large suite of tools for wood, metal, plastic, electronics and 3D printing work, and offers hands-on training and peer mentorship.

**Discovery Lab:** An open forum for academics, startups and SMEs to explore opportunities to commercialize new technologies and develop plans to launch new products and services. Discovery Lab hosts events where anyone can pitch their plan to a panel of legal, business, marketing, financial and investment experts who give independent feedback. The panel is drawn from 100+ advisers who offer \$3 billion to invest, and can provide support as well as practical advice and strategic guidance.

## Campus Events

**Falling Walls Lab (September):** This fast-paced format showcases the quality, talent and passion of next-generation researchers and innovators. Participants pitch their idea or research discovery idea in three minutes to a panel from academia, government, business and the media for a spot in the international finale in Berlin.

**Falling Walls Venture (August):** This fast-paced event showcases the university's early-stage, research-driven spinoffs (under five years). Companies pitch their innovation and business model in five minutes to industry, investors, government and the media for a spot in the international finale in Berlin.

**TCC Innovation and Entrepreneurship Dinner:** This annual talk features an innovation keynote speaker and a celebration of student eHUB Awards as well as the Entrepreneurs' Organization Global Student Entrepreneur Awards.

**Innovation Awards:** An annual TEC Edmonton event to celebrate the University's commercialization activities from the past year. The event recognizes researchers who received a patent in the previous year or who have created a university spinoff company.

## Community Events

### **Startup Edmonton Preflight at HUB:**

This three-workshop series coaches entrepreneurs and helps them refine and prove target markets, create product and company roadmaps, prepare pitches to investors and sell to customers.

### **Startup Edmonton Launch Party:**

Profiles tech startups to an eager audience of investors, business leaders, students, government representatives and others in Edmonton and Alberta's innovation space.

### **TEC Edmonton Ask Me Anything**

**Sessions:** Support TEC tenants and companies. Content covers business development, technology management and regulatory processes.

### **Startup Edmonton Student DevCon:**

Full day of workshops, panels, and one-on-one time with chief technology officers and development teams from some of Canada's fastest-growing tech companies.

**A100 Accelerate AB:** Annual conference brings together leaders, investors, influencers and supporters of Alberta's technology ecosystem. The goal is to leverage the success of the next generation of technology entrepreneurs across the province.

**Alberta Innovates Inventures:** Annual conference held in Calgary brings together inventors, investors, thought leaders, researchers, startups, scaleups, venture capitalists, angel investors, entrepreneurs, early adopters, business educators, and service providers.

**HackED:** A bi-annual 24-hour student hackathon open to Edmonton post-secondary students, sponsored by the university's Engineering Club, Elko Engineering Garage, StartUp Edmonton and others.







# INNOVATION

## TASK FORCE REPORT



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ALBERTA