OCAD UNIVERSITY

BUILDING AN INCLUSIVE AND INNOVATIVE CANADA

The complex problems of the 21st century require intensive interdisciplinary approaches and human-centered knowledge. The humanities, social sciences, arts and culture are fundamental to addressing these problems in Canada and on the global stage, as much as the science, technology, engineering and mathematics (STEM) disciplines that are traditionally tasked with innovation. It is the combination of these forms of knowledge that will truly allow Canada to succeed in this century. Issues of global security, livable "smart cities," disease control and brain health, for example, rely on these combined forms of knowledge. It is critical that research funding, as well as K–12 and post-secondary capabilities, build on Canada's historical strengths in "soft" as well as "hard" fields, in qualitative as well as quantitative research. This approach is sometimes called STEAM+D: Science, Technology, Engineering, Arts, Math + Design – representing the full spectrum of expertise required to enable social and economic innovation.

Such forward-looking innovation requires design thinking. Crucial to Canada's future, design thinking must be front and centre in the federal inclusive innovation agenda, both in policy development and implementation. Critical to experimentation as well as to the development and further enhancement of services, products and business methods, design thinking is applicable to governments, not-for-profits and businesses of all types and sizes — from start-ups to blue chips.

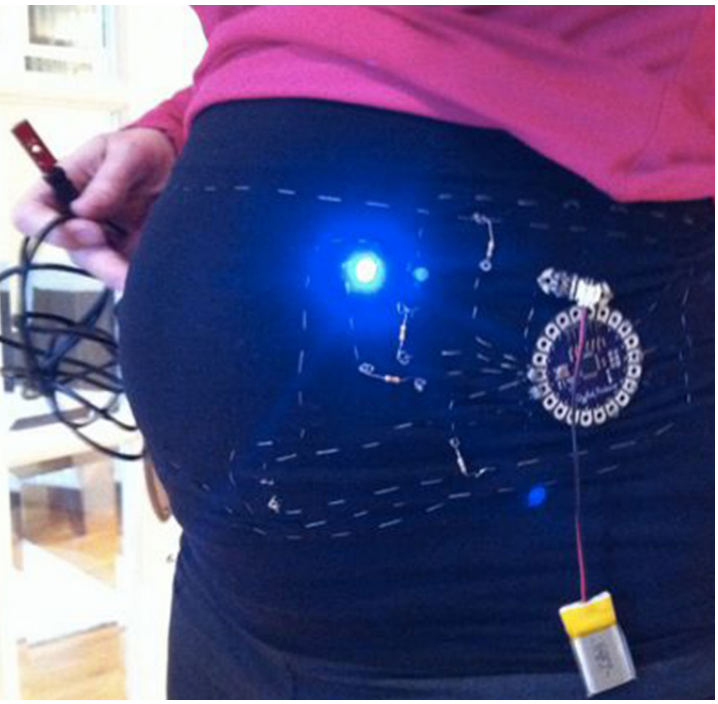
Design thinking solicits solutions from the most diverse range of perspectives in order to create more durable product and service solutions in the marketplace. This means that companies, organizations and nations can generate multiple strategies and then bring them together towards implementation. Design thinking relies on diverse, multidisciplinary teams that collaborate on a wide range of potential solutions, rapidly creating and iterating prototypes while continually gathering and integrating feedback from intended users, ensuring that delivered systems incorporate feedback and are constantly improved. The benefits of design thinking are evident worldwide, with leading business schools (e.g., Rotman, Harvard) embracing it as a core part of their curricula, and international firms (e.g., IBM, Disney and Toyota) leveraging it to increase their reach, efficiency and profitability.

> *The essence of design thinking involves empathizing deeply, listening to, and observing people in order to identify problems to address and new opportunities to explore. Design thinking unites systems analysis with outcomes-oriented problem-solving.*

Central to the vision and recommendations presented in this submission is OCAD University's forthcoming Campus for the Connected World on Toronto's Waterfront. Bringing design thinking and capability to many sectors, this living laboratory will be an expanded home for OCAD U's human-centred technology design, digital media, data analytics, smart city design and green technology research and learning.

Located at the heart of an emerging information and communications technology cluster, with strong linkages across Canada and globally, the Campus for the Connected World will also house the university's

Imagination Catalyst incubator and a shared commercialization partnership with IBM Canada, which will provide researchers with support and access to a unique and globally expanding computing infrastructure to expand and accelerate research scope and outcomes. This collaborative research model will attract IBM research and development (R&D) investment to Canada in cloud computing, analytics, mobile, security and social platforms, providing powerful design capability. The new campus will also be well placed to develop additional partnerships with Cisco's Innovation Centre, Corus Entertainment and other industry neighbours in the Greater Toronto Area and the Greater Toronto and Hamilton Area, and Indigenous communities in the region. Through its networks and co-location, it will leverage Canada's diversity, building international collaboration with industry and institutional partners in China, India and the developed world.



DESIGN AND INNOVATION

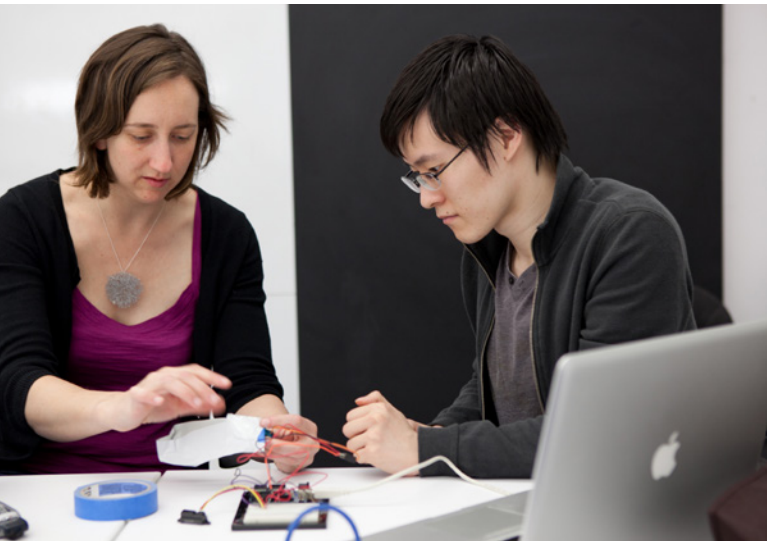
Leading OECD countries have already integrated design thinking into innovation strategies in order to support the emergence of key industries. Examples include Denmark, which implemented a national design policy to raise productivity; China, which has invested heavily in design training at the post-secondary level; and Korea, which is focusing on design as a means to recover from the drop in demand for its high-tech goods in the 1990s. Businesses are also emphasizing design in their product development. Apple is the most famous case, and has repeatedly demonstrated that the marketplace is willing to pay a significant price premium for well-designed hardware and software.

These and other successes are supported by experiences in New Zealand, Denmark, Singapore, the United Kingdom and Canada that have correlated design intensity with innovation growth and capacity-building at the regional and national levels. This is because design operates as a critically important source of economic value, raising firms' profitability and productivity, and contributing to national economic competitiveness and performance. It is also becoming clear that nations that integrate design into STEM activities are more successful than others. Science needs applications, and emerging technologies are most successful when adapted into human-centric products. An important feature of the specialized design services industry is that it influences a variety of other industries. Recent statistics show that 64% of sales of services were to other businesses, with interior and graphic design services accounting for over two thirds (71.8%) of the industry group's total sales. [1]

[1] Statistics Canada. 2016. Specialized design services, 2014. Ottawa: Statistics Canada. (http://www.statcan.gc.ca/daily-quotidien/160518/dq160518g-eng.pdf) (Accessed: 1 September 2016).

WHAT THIS MEANS FOR CANADA

Design-centred research and development will help Canada pivot from the "old" economy into the emergent "new" economy, defined by increased digitization, digital disruption and Industry 4.0. On this account, design activities are integral to innovation. These activities are specific and measurable; and, like innovation, design can be taught, learned and practised. Fostering an ecosystem approach to design thinking means that innovation becomes everyone's business, not the purview solely of any one discipline or credential. OCAD U, for example, could offer design expertise to any other cluster across the country, whether connected vehicles, carbon-neutral advanced manufacturing or FinTech, facilitating sharing, interaction and engagement in support of the design of new products and services. The application of design thinking and practices to our burdened health-care system and preventative care could lead to a patient-centred, efficient and cost-effective redesign of health services.



Just as it has in other jurisdictions, a design-centric innovation strategy holds the potential to accelerate Canada's economy, shifting it away from dependency on traditional sectors, such as natural resources and manufacturing, to the digital realm. Our country is well positioned to integrate design thinking into an inclusive national innovation strategy:

1. Canada has a long tradition of pride and celebration of its culturally and ethnically diverse population, and design thinking views diversity as a necessity that stimulates creative exchange and innovation.

2. Canada has world-recognized expertise and postsecondary programming (e.g., at OCAD U) in design thinking, as well as businesses that are championing a design approach to innovation. Examples include IBM Canada and design-focused retailer and manufacturer Umbra, which originated in Ontario but has now expanded throughout the Americas and into Asia. It is critical that we encourage other businesses to adopt this design approach to make products and services more competitive and, more importantly, support the training of new designers to meet this new demand.

3. Canada already has a large and well-established design services sector — particularly in Ontario, Quebec and British Columbia — that is well-positioned to double or triple its engagement with new industries if the right incentives are put in place. In Canada, there are 18,661 employers/non-employers of specialized design services, and Ontario is home to 45% of them. Across the country, specialized design services industry revenues have been on the rise, with the operating profit margin increasing from 19.7% in 2013 to 21.3% in 2014.[2]

Making design thinking and practices foundational to Canada's innovation strategy will enable companies to create better — globally competitive — products and services. With such a diverse population, we are well suited to be a platform for the design of products and services for world markets.

[2] Statistics Canada. 2016. Specialized design services, 2014. Ottawa: Statistics Canada. (http://www.statcan.gc.ca/daily-quotidien/160518/dq160518g-eng.pdf) (Accessed: 1 September 2016).

THE ROLE OF THE ARTS AND CULTURE TO INNOVATION AND TO THE CREATIVE ECONOMY

Canada has developed exemplary capabilities across its cultural sectors and, in turn, Canadians engage in more cultural activities than they participate in sports. Artists push the limits of form, invent and repurpose technologies and offer invaluable critiques of society as well as solutions. Cultural industries are among the most dynamic, growing elements of our regional and local economies; for example, Canada is a world leader in games development and animation. According to Statistics Canada, cultural industries are an expanding sector of the economy, contributing approximately $54.6 billion to Canada's GDP[3] , with arts education alone contributing $3.8 billion[4]. Canadian cultural production, both not-for-profit and in our substantial for-profit sector, represents of 3% GDP on an annual basis. The growing interface between the arts and the sciences brings new possibilities; for example, in the exploration of artistic and musical expression in brain health and cognitive capacity at Baycrest Hospital, or in the experiments in virtual reality and theatre at the Stratford Festival. For all of these reasons, Canada will benefit by ensuring that the cultural sectors and industries are treated as an important cluster and equally as a partner in innovation when placed side by side in integrated interdisciplinary clusters.

OCAD U brings specialized capacity to the workforce, creating jobs, stimulating innovation and contributing to economic development in Canada. The university trains individuals and teams who develop start-ups and industry partnerships, nurturing invention across a wide range of sectors. The contexts are remarkably varied: information and communication technologies (ICT), digital, mobile, the health sciences, gallery and exhibition venues, design studios, government and the cultural industries.

The university's 19,000+ alumni are among Canada's leading artists and designers.[5] These alumni work in more than 30 distinct fields, both within and outside of art and design — from city-planning to advertising and publishing, illustration and interior design to curating and exhibiting. In addition, 17% of alumni have been or are currently the founder of a not-for-profit or for-profit organization, 79% of which are in the culture sector (including the digital media industry). OCAD U alumni are not only employed in various sectors, but are also creating jobs for themselves through self-employment and for others as founders of organizations. Estimates indicate that the earning power of OACD U alumni and their additional economic impact is $66.6 million. This contribution almost doubles to an estimated $120.6 million when induced spending effects are accounted for.[6]

In Ontario, the creative industries have grown by 40% in the past decade, and have generated more than 80,000 new jobs[7]. Moreover, a recent report showed that the university is also a significant driver of the local economy: estimates put the institution's annual economic impact at $257.6 million, with student spending alone contributing approximately $34 million per year to the local economy, creating an additional 207 jobs in the community.[8]

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[3] Statistics Canada. 2016. Provincial and Terrirorial Culture Indicators, 2014. Ottawa: Statistics Canada (http://www.statcan.gc.ca/daily-quotidien/160511/dq160511a-eng.pdf) (Accessed: 2 September 2016)
[4] Canadian Heritage. 2016. Culture: Value in our Lives, Value in our Economy. (http://canada.pch.gc.ca/DAMAssetPub/DAM-PCH2-PCH-InstitutionalProfile/STAGING/texte-text/canada-sketch_1463508851408_eng.pdf) (Accessed: 2 September 2016)
[5] For further details and examples of alumni impact, see http://www.ocadu.ca/Assets/documents/20110908-sketch-135th-anniversary-edition.pdf and http://www.ocadu.ca/alumni/our-alumni/alumni-profiles.htm (Accessed 2 September 2016).
[6] Higher Education Strategy Associates. (2014). OCAD University:Economic and Cultural Impact.
[7] Government of Ontario. (2013). Year in Review 2011-12: Creative Industries.
[8] Higher Education Strategy Associates. (2014). OCAD University: Economic and Cultural Impact.

A DESIGN-CENTRIC INNOVATION STRATEGY FOR CANADA

The Scientific Research and Experimental Development (SR&ED) program is intended to cover design-related activities. OCAD U therefore encourages the Government of Canada to make design and design thinking practices foundational elements of its inclusive innovation agenda in order to enable Canadians and Canadian companies to thrive on the world stage. People who employ design thinking and tools are capable of engaging culturally diverse as well as industrially diverse sectors, communities and individuals, thereby promoting entrepreneurship, socially engaged initiatives and an innovative and creative society.

Drawing on OCAD U's extensive experience in design-related research, teaching and creation, we are proposing the following as critical components for a design-centric innovation strategy:

- Create a Canadian focus and international market promotion of Indigenous peoples' talent and areas of achievement, acknowledging that the last decades have seen cultural expression flourish and the integration of Indigenous knowledge into many fields. This initiative would include promoting Indigenous music, visual art, cinema, new media, architecture and design, as well as Indigenous approaches to law, justice, health care, healing, community development, sustainable communities and resource development.
- Develop a powerful service ecology to support start-ups and scale-ups. A Canadian cluster strategy requires support for design thinking and capacity to augment technical supports. A demand-driven innovation approach will leverage clusters for product and service development in industries. These support structures could be aggregated into a local and virtual network.
- Acknowledging that universities are not product-ready producers in the research and technology transfer chain, build alliances with colleges and businesses that can create product from prototypes and fund this stage of transfer.
- Implement federal support for universities, colleges and industry to bring design thinking tools to industries in order to support industry-based design strategy development; innovations in product and service development; and enhanced productivity. One of the great strengths of contemporary design methods is the provision of a set of tools to engage end-users and citizens in design processes (e.g., needs assessments, participatory design processes and evaluation).
- Provide tax incentives (analogous to SR&ED program credits, but focusing on design-related investment) that support the adoption and integration of design thinking into business practices. Leveraged grant programs — similar to NSERC's Collaborative R&D model — could be used to encourage industry to partner with universities and colleges to tap into their design expertise.
- Support business incubators and accelerators that focus on design principles is key to ensuring our next generation of businesses are competitive on an international scale.
- Celebrate and nurture Canada's successes in the design sector (e.g., IBM Canada, Umbra), whether this means physical or digital products or services.

INNOVATION AGENDA TOPICS

ENTREPRENEURIAL AND CREATIVE SOCIETY

How can Canada become the best country in attracting and developing talent?

Ground-breaking ideas and game-changing discoveries capable of driving innovation and growing economies start from the talented people researching, teaching and learning at Canada's universities. Excellence should be supported wherever it is found. The following are recommendations intended to support Canada's quest to rise to the top in the global quest to attract and develop talent.

- Ensure that designers and artists are integrated into creative rethinking and building of innovation capacity. Designers and artists — especially those working with technology — are often disrupters of existing practices and imaginative forerunners of the future.
- Develop coherent and supportive immigration policies that reinforce talent mobilization in order to enable top international researchers to contribute to university-based research and to empower the best international students to remain in the country after their studies and to transition smoothly into being productive members of the Canadian labour force. In particular, Canada should aim to be the fastest in the world for international student visa processing.
- Make entrepreneurship support available for international students. The lack of such support is a major disincentive for international students to remain in Canada in order to create start-ups.
- Foster an ambitious Canada without Borders vision. Canada is a country built by immigrants with strong diasporic ties; it is a global marketplace with only a relatively small domestic market, and Canada's young people would benefit from more international experience. Students who study and/or work abroad return to Canada and enhance Canadian institutions. We could, for example, create robust international–partner research programs, as well as a program that emulates Brazil's Science without Borders, through which 200,000 Brazilian university students went abroad to learn and undertake internships in countries around the world. A similar model is the European ERASMUS program, which supports industry experience abroad. Universities Canada has long advocated for this kind of policy.
- Support the National Research Council's Concierge program to expand collaboration and cooperation among jurisdictions, adjacent industrial sectors and markets, with the goal of empowering innovators to enter markets and tap into the supports relevant to each geography. By creating and fostering complementary clusters in multiple jurisdictions and industries, international students, businesses and immigrants could tap into these for well-defined supports to enable a soft landing into new markets. The same could also be done on an inter-provincial/territorial level, thereby, for example, helping a Toronto company enter the Alberta or Nova Scotia markets.

How do we work together to equip youth with the right skills for the future economy?

Everyone, regardless of role, needs to understand what innovation is and how it can benefit business and society. Full innovation literacy means Canada will have a holistic and whole-of-community approach to innovating in all sectors of the economy. On this understanding, innovation is not the purview of a single discipline or academic credential.

In order to accomplish the spread of innovation, Canada needs to do more to ensure young Canadians acquire the 21st-century skills they need, including global competencies, so that our future entrepreneurs, researchers and innovators can engage in the global marketplace of ideas. Critical to skills development is enhanced investment in arts and cultural learning, teaching discipline, self-awareness, creative expression and risk-taking. Innovation can be taught, learned and practised, and when post-secondary students are engaged with industry and community partners in innovation as it relates to their field of study (via work-integrated learning), these students gain key innovation skills and competencies. These skills are not just germane to working in specific industries. They are transformative skills that enable resilience and the capacity to learn and innovate continually.[9]

Canada should, therefore, support new programming that aligns university education with the skills and products of the future — including in entrepreneurship programming that is focused on immediate business impacts. Moreover, there should be emphasis on the arts, creativity, design thinking and digital literacy — all skills that are necessary to compete in today's world.

Employers in the private and not-for-profit sectors should be encouraged to offer meaningful co-op or work-integrated learning opportunities for students. 10 This would enable students to gain relevant workforce experience, develop business and social innovation skills; and challenge their classroom knowledge in real-world contexts. Moreover, it would allow universities to be responsive to private- and public-sector needs, and to alter programming to suit.

OCAD U is expanding its ability to equip youth with the right skills, and to help them build the future economy in partnership with emerging and established firms. Thanks to generous support from the federal government's Strategic Infrastructure Fund, OCAD U is building the first phase of a new home to expand its digital learning, research, commercialization and incubation capacity: the Campus for the Connected World on Toronto's Waterfront. This new

See, for example, Toner, P. (2011). Workforce Skills and Innovation: An Overview of Major Themes in the Literature. OECD Education Working Papers, No. 55. (Available online at http://dx.doi.org/10.1787/5kgk6hpnhxzq-en) (Accessed 31 August 2016). See also the OECD's Innovation Strategy (Available online at http://www.oecd.org/site/innovationstrategy/) (Accessed 1 September 2016).

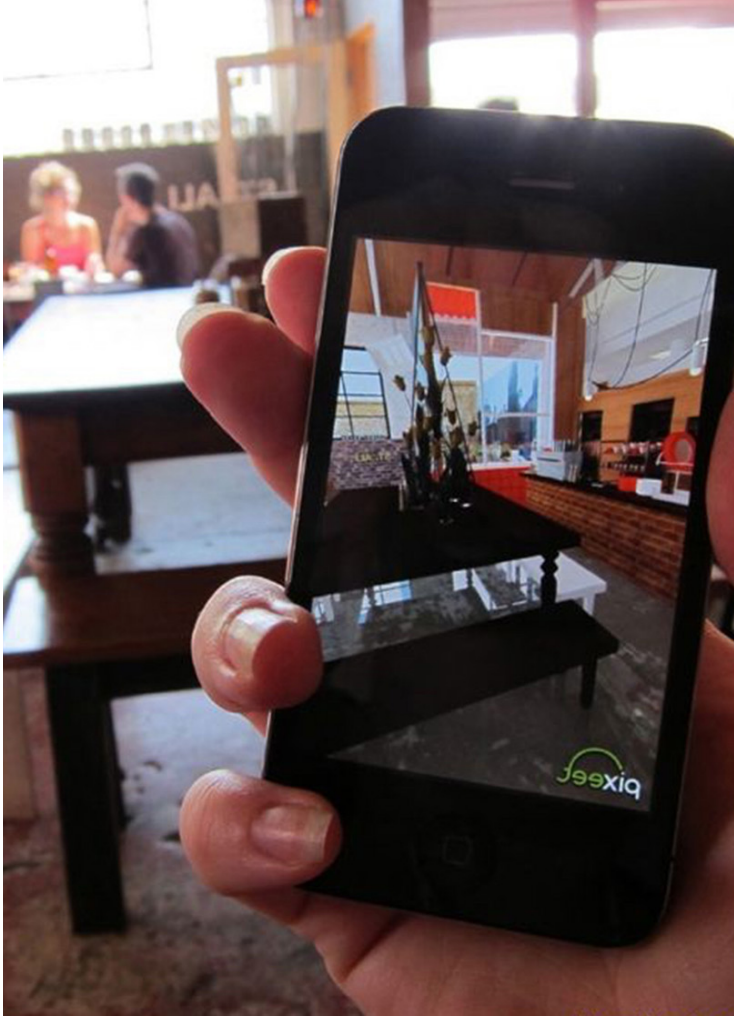
[9] The Business Council of Canada and the Business Higher Education Roundtable support work-integrated learning and research partnerships; see, for example, http://bher.ca/ (Accessed 1 September 2016).

campus will include cutting-edge studio spaces for experiential and interface design, prototyping, new materials manipulation, 3D printing, usability testing and data visualization. Phase 1 of the Campus for the Connected World is a 13,000 square-foot facility in the new Daniels Corporation City of the Arts, which will be complete by 2018. OCAD U is currently seeking $25 million in federal support towards the $50 million second phase, which will bring the full project to 68,000 square feet.

What more can be done to cement Canada's place as a leader in social entrepreneurship?

Social entrepreneurship will allow Canada to sustain its strong values and build a society that is inclusive, just and innovative. Social entrepreneurship should be recognized as equally valuable to society — or perhaps even more so — as traditional business-focused entrepreneurship. As such, it should receive the same incentives and support from the government as other forms of entrepreneurship.

The early 21st-century sharing economy is transforming into the "caring" economy. Whether virtual reality systems that support the healing of trauma victims, urban agriculture or new supports for aging in place, social entrepreneurship will be critical to Canada's future, not least because of the enormous potential cost savings associated (e.g., with well-designed healthcare technology innovations). Social entrepreneurs should be encouraged and given incentives to join incubators and accelerators, which, in turn, should be prepared to provide the training and mentorship required.



COMPETING IN A DIGITAL WORLD

What are innovative ways to develop stronger digital skills among Canadians?

In order to help build a strong digital economy in Canada, Canadian universities are embracing digital technologies that support teaching, learning and research. They are also striving to provide 21st-century facilities for students and researchers. OCAD U encourages the federal government to invest in institutions and technologies that produce innovation on a consistent basis and that have the potential to be scaled up further.

As the world transforms, OCAD U's faculty, students and alumni are leading change, building strong new competencies in human-centred technology design, strategic foresight, design thinking and Big Data-driven fields (e.g., visual analytics, wearable technology and the Internet of Things). The new Campus for the Connected World will place design thinking, strategic foresight and digital media at the centre of emerging capabilities in Big Data, the Internet of Things, green and sustainable technology and cognitive computing. This will support industry-partnered research in biomaterials innovation, learning support technologies, inclusive design and digital media industries including animation, cross-platform and online media.

Students come to OCAD U with strong digital literacy skills, but these are primarily focused on social apps. As a nation, however, we need to promote and foster broader digital literacy for productivity. This means using digital tools in teaching and learning as a model for how these tools are used in the workplace, and promoting coding and demystifying things such as digital code and the Internet of Things. To achieve this end, OCAD U could, for example, sponsor coding camps for primary-education students.

WORLD-LEADING CLUSTERS AND PARTNERSHIPS

What is the right model for made-in-Canada innovation clusters led by businesses?

Canada needs demand-driven innovation. Critical to achieving this goal are the participation and support of the country's universities. Successful innovation clusters must involve universities — that is where the essential expertise and young talent are. Clusters should be industry-driven and focused on solving immediate innovation challenges, while balancing longer-term thinking and strategic foresight. This means striking a balance between industry partnerships and short-term innovation needs with investment in university-level basic research. Both are necessary to a well-functioning innovation economy. Integrating the "idea push" from university research and the "demand-driven pull" of industry–research partnerships will enable Canada to realize benefits from public investment in research while helping industry to innovate as needed. Combining this with supports for work-integrated learning will support the education and training of the next generation of innovators and entrepreneurs, and foster and strengthen resilient regional economies.

Toronto is an ideal home for these sorts of world-leading clusters and partnerships. The city, for example, had 174,000 cultural sector workers in 2011; that year's cultural GDP in Toronto was estimated at $11.3 billion. On the design side, fully 62% of Ontario's 45,150 designers live here.

Toronto is embracing an innovation economy and witnessing significant growth in its digital media and entertainment, data mining, analytics and visualization industries. In the midst of this creative, high-tech revolution, Toronto's Waterfront is being remodelled as a hub for the connected world. Waterfront Toronto, the public advocate and steward of the city's lakeshore revitalization, estimates that the waterfront communities will eventually be home to 40,000 new residents and 40,000 new jobs. The significant investments in ultra-high-speed networks, smart infrastructure and data capture/analytics in this precinct make it an ideal location for the Campus for the Connected World.

OCAD U encourages the federal budget to provide infrastructure funding for institutions that enable and strengthen world-leading clusters, and to ensure that design thinking, diversity and inclusivity, Indigenous methodologies and commitment to environmental sustainability have a role in made-in-Canada innovation clusters.

GROW COMPANIES AND ACCELERATE CLEAN GROWTH

How can Canada support the scale-up of innovative companies?

[12] City of Toronto. (2012). Cultural Research Fact Sheet: Contribution of Arts and Cultural Industries to Toronto's Gross Domestic Product (GDP); Research Resolutions & Consulting Ltd. (2012). Ontario Arts and Culture Tourism Profile. Toronto: Ontario Arts Council.
[13] Vinodrai, T. (2009). The Place of Design: Exploring Ontario's Design Economy. Toronto: Rotman School of Management, University of Toronto – Martin Prosperity Institute.

INCUBATORS:

Universities have proven themselves to be prolific generators of new ideas, but R&D assistance is needed in the development phase to bridge the capital and financing gap between the initial idea and venture capital stages of their development.

OCAD U's incubator, the Imagination Catalyst, is a hub for creative and design entrepreneurship and innovation, supporting commercialization initiatives and bringing design skills to emergent companies. It supports up to 25 creative companies and social ventures each year, while leveraging OCAD U's investment in world-class technology, maker studios, research labs and specialized maker equipment such as 3D printers.Since 2010, the Imagination Catalyst has incubated over 75 companies, generating more than $5 million in investment and creating 150 jobs. In 2014, the Government of Ontario made an initial $1 million investment as Ontario's hub for creative entrepreneurship. Venture partnerships have grown the Imagination Catalyst Venture fund to $2.25 million

Federal funding for Phase 2 of the Campus for the Connected World will allow OCAD U to move and expand the Imagine Catalyst incubator from its current 3,000 square feet to a larger space co-located with industry leaders, such as IBM Canada. In addition to housing early stage companies primarily led by youth, this expanded incubator will house middle- and later-stage companies run by OCAD U faculty and staff. The expanded incubator in the Campus for the Connected World will provide mentorship and networking for these organizations as well as administrative support. The mix of different companies at different stages alongside industry partners will provide cross-sector fertilization of ideas and collaboration

START-UPS AND SCALE-UPS

Canada needs the capacity to support serial start-up and company builders. Canada is fortunate to have nurtured individuals such Raja Khanna and Michael Hurst, entrepreneurs who have successfully started and then moved on from companies that continue or are acquired in order to create further successful firms. This is a particular kind of individual who we need to cherish and enable, as well as learn from their capacity to assess and successfully take risks.

Canada also needs to ensure there are no barriers for accelerating mergers and acquisitions as companies grow. This will help to ensure that scale-up occurs and that mechanisms for building companies that stay here are in place.

CULTURE CHANGE AND DIVERSITY

There must also be strategies for culture change to ensure that female entrepreneurs are nurtured and able to sustain their vision and companies. Women continue to form the majority of consumers, but are dramatically underrepresented in incubators and start-up numbers. Connected to this is developing ways to ensure there are mechanisms to get women onto start-up boards. Diversity of view on boards coupled with understanding the audience/user has been demonstrated to build more effective market reach.

PROMOTE PERSONAL INNOVATION INVESTMENT AS CITIZEN SCIENCE

Canada can encourage a conspicuous contribution to innovation investments among the public by providing tax incentives for people to invest in start-ups in their region.[14] Investors are encouraged to support small businesses in their region, giving these firms access to growth capital and supporting job and wealth creation in their communities.

What more can be done to increase business enterprise R&D spending?

Many university–industry partnerships fail because of the cultural differences between academic and industry-driven research. To resolve this problem, training and assistance should be provided to faculty and students to work within industry settings.

Design thinking skills and competencies are essential to increasing innovation. Linking industry to design students and schools via research partnerships and work integrated learning will enhance short term competitiveness in firms accessing these supports. This activity also supports long term innovation capacity, as graduates with experience with innovation and innovation skills will be more likely to innovate in their future careers.

Canada's universities remain productive sites for R&D,[15] and businesses should continue to partner with universities on R&D projects. NSERC's Engage and Collaborative R&D programs are good examples of providing incentives for businesses to do just that. Unfortunately, however, there are no equivalent programs offered by CIHR (for health research) or SSHRC (for social sciences and the humanities), even though these other disciplines are of tremendous value to Canadian businesses. Compounding this problem is the fact that SSHRC has no formal listing of design as a supported discipline, even though design is taught at many universities.

[14] See the British Columbia Small Business Venture Capital Tax Credit system: http://www2.gov.bc.ca/gov/content/taxes/income-taxes/corporate/credits/venture-capital.
[15] See the OECD report on science and innovation in Canada (http://www.oecd.org/canada/sti-outlook-2012-canada.pdf) (Accessed 1 September 2016).

OCAD UNIVERSITY AND THE INNOVATION AGENDA

HOW OCAD UNIVERSITY IS SUPPORTING THE INNOVATION AGENDA

OCAD U is producing leading thinkers, designers and creative people that are supporting innovation across the economy. A specialized, 140-year-old institution, OCAD U produces and employs the country's leading artists, designers, digital media researchers and cultural thinkers.

The university's faculty members and students have long been on the leading edge of developments in art, design and digital media and technology innovation. From encaustic paint substrates to early anthropomorphic robotics applications, biomimicry to computer-driven music tools, OCAD U has been a leader in incorporating new ideas and processes into its studio-based learning. Central to OCAD U's constant evolution is the belief that creativity and imagination can improve the world, a conviction that drives the university's plans for the Campus for the Connected World: a research commons for multidisciplinary programs of study animated by an integrative spirit of entrepreneurial partnership.

BACKGROUND ON OCAD UNIVERSITY

OCAD U is located in the heart of downtown Toronto, with 4,600 students enrolled across 16 undergraduate and 7 graduate programs. The university produces and employs the country's leading artists, designers, digital media researchers, design thinkers, strategic foresight analysts and cultural thinkers, as well as research faculty who add breadth capability in ethnography, sociology, psychology, law, health care, engineering, computer science and the humanities. It also generates jobs; supports entrepreneurship, cultural diversity and Indigenous knowledge; and has a significant economic and social impact in Canada and beyond.

The university has also focused on attracting industry contract research from major companies such as IBM Canada, Cisco, the Globe and Mail, Microsoft and Uber, as well as extensive collaboration with small and medium-sized enterprises. OCAD U currently has three Canada Research Chairs: Indigenous Visual Culture and Curatorial Practice, Design for Health and Design for the Connected World (the Internet of Things) OCAD U is renowned for its specialized research labs.[16] Examples of OCAD U's leading research areas include:

VISUAL ANALYTICS LAB:

This research partnership — with York University, University of Toronto, health-care institutions and major industry partners — is developing the next generation of data discovery, design and visualization techniques.

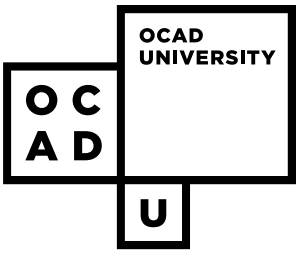
STRATEGIC INNOVATION LAB:

This is a growing community of scholars, practitioners and business and policy professionals who employ a design-thinking and scenario approach to finding, framing and solving the complex dilemmas — financial, social, organizational and other — of 21st-century life.

INCLUSIVE DESIGN RESEARCH CENTRE:

This is the largest, most productive and connected applied research initiative of its kind, with 26 permanent research staff, more than 24 research assistants, several postdoctoral positions and more than 300 formal multi-sector partnerships globally.

[16] For a list of the university's labs, visit http://www.ocadu.ca/research/dmrii.htm (Accessed 1 September 2016).



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