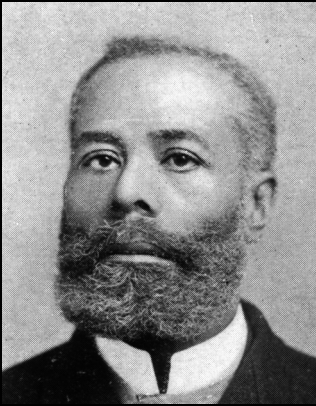




**Canada's AI imperative**  
Public policy's critical moment

omnia**AI**



Major technological disruptions can lead to periods of intense uncertainty and change—but they also open the door to opportunity. **Elijah McCoy**, the Canadian-born engineer and inventor depicted on the cover of this report, understood this. He built upon the trailblazing discovery of the steam engine to secure over 50 patents, most significantly to do with engine lubrication, and had a major impact on transportation throughout the late 19<sup>th</sup> century.

We’re living in similarly disruptive times, with artificial intelligence (AI) the steam engine of today. Canada is in a position to be a world leader in AI—a revolutionary technology with the potential to create prosperity for our nation—but we need to act now. We need effective public policy to capitalize on the opportunity provided by modern Canadian researchers and innovators, and strong public policy leadership to achieve AI prosperity for our businesses, citizens, and nation.

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This report was written in conjunction with Springboard Policy ([springboardpolicy.com](http://springboardpolicy.com)), a public policy research and development organization based in Toronto. Deloitte extends our appreciation.

Artificial intelligence (AI) is expected to be one of the leading economic drivers of our time, and Deloitte believes Canada has a responsibility to be a global leader. As a country, we have the research strength, talent pool, and startups to become a leading AI supplier, but that's not enough if we want to lead in an AI-driven world. Our ambition as a nation should be to shape what that world will look like. True leadership is required—that means taking steps now to establish a world-class AI ecosystem in Canada.

# Introduction

Today it's sometimes difficult to notice when our lives intersect with artificial intelligence (AI). But from the minute we wake up to our Spotify playlist, to navigating somewhere using Google Maps, through to the Amazon impulse buy, our lives are already governed every day by decisions made by algorithms. Each interaction with an algorithm represents a decision point—one previously made by a human, or a structured set of rules, but now more and more by AI.

This represents the start of a profound shift in how our society operates. And like other major technological disruptions, there is a risk that the benefits will not be evenly distributed. So, how can we shape the future environment so that Canada and Canadians benefit? How can we ensure, as a society, that we're ready to adapt to the societal changes that this new technology will bring?

This report is the third in a multi-part series from Deloitte on Canada's AI opportunity. Our first report, *Canada's AI imperative: From predictions to prosperity* showed that despite strengths in research and talent (the supply side of AI), Canada cannot lead without

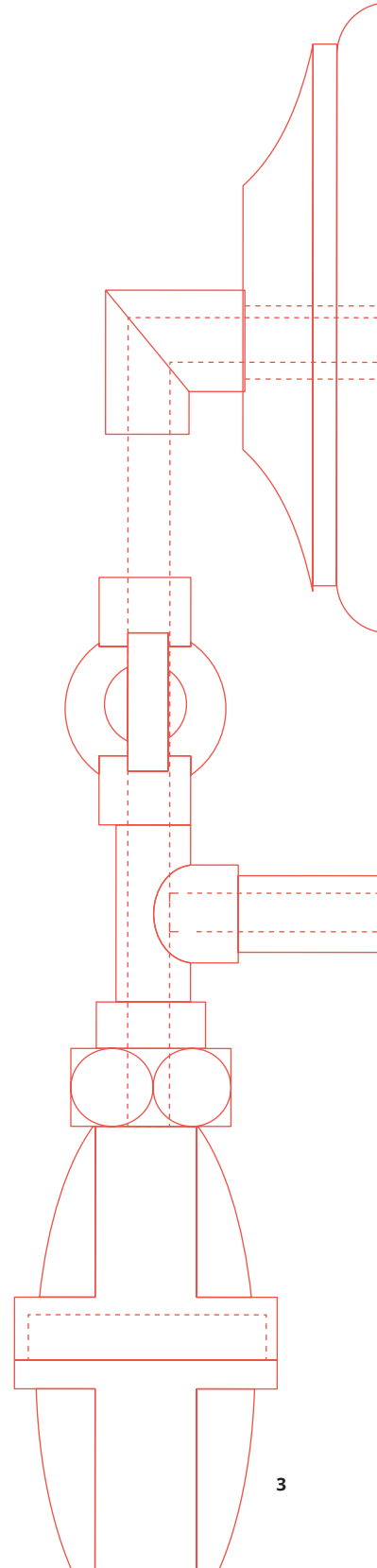
addressing the barriers that are holding back demand for AI. We found that only 4 percent of Canadians were confident in their understanding of AI. We also heard that on top of this lack of understanding, Canadians have a lack of trust in AI. This mistrust is holding back the adoption of AI, as businesses and consumers alike told us they had concerns about using AI-enabled tools they didn't trust. We also heard that Canadian companies had difficulties understanding and measuring the benefits of AI, and that the transition from startup to scale-up was challenging.

In our second report, *Overcoming risks, building trust*, we dug deeper, exploring individual Canadians' perceptions of AI to get to the root of this lack of understanding and trust, and find out how business and government could best respond. We heard concerns about accountability, privacy, and whether bias was an AI problem or a human one.

This report addresses the role of governments across Canada in harnessing the potential of AI while ensuring that Canadians are prepared for change, and that the rights and values of Canadian citizens are protected.

Together, this series aims to find a path forward for Canada to achieve AI prosperity by claiming a global leadership position in an AI-driven world. It will take courage and bold leadership to forge a new path that other countries either have not or are unwilling to, but Deloitte believes Canada has the unique opportunity to do so—and it's within our grasp.

How can we shape the future AI environment so that Canada and Canadians benefit? How can we ensure, as a society, that we're ready to adapt to the necessary societal changes that this new technology will bring?



# Canada needs an AI prosperity strategy

## Effective public policy is the foundation

AI prosperity for Canada means that AI improves business productivity, government effectiveness, and the nation's future. It also means that Canadians who may be negatively affected by AI are protected and offered other opportunities. Lastly, it means that we use AI to meet and advance Canadian values—like fairness and a reasonable expectation of privacy—while protecting our rights, such as freedom from discrimination by gender, ethnicity, or religion.

AI prosperity depends on public policy leadership. Canada has shown foresight and courage by making deep public investments in our research and talent

strengths with the federal government's Pan-Canadian Artificial Intelligence Strategy (see: *State of play*). But as we have highlighted in our previous research, talent and research strengths aren't enough to secure Canada a leadership position in AI.<sup>1</sup> Our unbalanced approach, focusing more on AI supply and less on demand, has led to slower business adoption than in other countries.

Public policy is a key driver for achieving AI prosperity because it sets the rules of the game and the conditions for success. Our policy frameworks were drafted with good intentions, but many date back decades—to a time before digitization was widespread—which has led to legal grey zones and operating risk today. Only by modernizing our legal and regulatory frameworks will we give our businesses the clarity to grow while still ensuring that citizens know their rights are protected.

## State of play

Canada has a strong head start for reaching prosperity in the AI age. Early investments have compounded over time, especially in leading AI research talent, even if there are still some gaps.

These strengths were made possible by critical public policy choices. The federally funded Canadian Institute for Advanced Research (CIFAR) has been a global AI leader since the 1980s, taking the then-unheard-of step of investing in AI research. Global AI leaders like Geoffrey Hinton and Yoshua Bengio have pointed to CIFAR's work as the reason researchers stayed in Canada at a time when AI was a fringe field.<sup>2</sup>

In 2017, the federal government launched the \$125-million Pan-Canadian Artificial Intelligence Strategy. The five-year program focuses on research and talent, including supporting AI research hubs in Edmonton, Toronto, and Montreal,<sup>3</sup> as well as global leadership in AI.

Provincial governments are also making big bets on AI. The Government of Quebec has partnered with the federal government in the \$500-million SCALE AI supercluster for AI supply chain and logistics, while the Government of Alberta has committed \$100 million for a provincial AI strategy.<sup>4</sup>



Canada needs a broader approach to achieve and preserve AI prosperity, one that addresses the full set of conditions needed to build an AI economy, respond to social change, and mitigate risk. Through our research, we have identified three action areas for an AI prosperity strategy (see: *Our research approach*). Each action area has a set of recommendations, but each also has a crucial prerequisite action that we believe is a foundation for growth—a prerequisite upon which all of the recommendations rely. These three areas address the need to help businesses use and adopt more AI, prepare and protect those who will be affected by AI, and mitigate the new risks that AI will introduce to Canada's social fabric.

Action area	Foundation for growth
<b>Fuel the AI economy</b>	Unlocking the value of data
<b>Prepare Canadians for change</b>	Promoting AI literacy
<b>Mitigate risk, build trust</b>	Developing accountability and transparency systems



## Our research approach

To understand the public policy strategy that Canada needs, Deloitte gathered insights from experts using a mix of approaches:

**Research interviews:** We conducted in-depth research interviews with AI and public policy experts across Canada and around the world between November 2018 and January 2019.

**Roundtable workshops:** We hosted three research workshops in Toronto in the fall of 2018 that engaged a cross-section of AI experts, business leaders, and policy-makers. Each workshop focused on a different theme, such as research talent and access to capital.

**Environmental scan:** We conducted an environmental scan of national AI strategies in 11 focus countries to understand current Canadian approaches in the international context and to draw best practices from global AI leaders.

Canada needs  
a broader  
approach to  
achieve and  
preserve AI  
prosperity.

# Action area #1



## Fuel the AI economy

Canadian competitiveness depends on a rapid transition to an AI economy—an economy powered by AI, in which businesses have fully integrated AI into their operations and strategies. Our past reports in this series have laid out the scale of the challenge: Canadian businesses are already behind their global counterparts in terms of AI usage and deployment. Without a clear plan to turbocharge growth, Canada risks being left behind our global competitors.<sup>5</sup>

### Key priorities for prosperity

Actions to grow the AI economy should focus on three key priorities: creating operating certainty around AI, maintaining our research lead, and helping companies to commercialize and scale their AI products and services. But these priorities depend on the more foundational focus of helping Canadian organizations unlock value from their data, because the potential of AI is severely crippled without flows of high-quality, machine-readable data. By delivering on these areas, governments can help Canadian companies compete on a level playing field internationally.

# 1 Foundation for growth: Unlocking the value of data

If data is the “new oil,” as *The Economist* and business leaders suggest, then giving Canadian businesses more data and regulatory certainty concerning their data is crucial to unleashing the demand for AI.<sup>6</sup>

## Why this matters for AI prosperity

Good data is what makes good AI possible. If AI is going to drive our economy, Canada needs to increase the quality and quantity of public and private data available to researchers and businesses. This is an urgent issue for Canadian competitiveness, as the quality of algorithms is directly tied to the quality and quantity of the data with which the algorithm operates. Companies without usable data can't embed AI deep into their operations and strategies; they'd be limited to more superficial uses.

But prosperity from AI depends on more than the quantity of data or getting it into the right form. Our past research shows that Canada needs leadership from business and government to build trust in how data is collected and used.<sup>7</sup> We need to unlock the value of data the right way to make it available for AI development while preserving the privacy and trust of citizens.

## Public policy recommendations

**Reform intellectual property law to respond to machine learning:** Intellectual property law needs to provide clarity for practices such as data scraping (extracting data from websites and other sources into a machine-readable form). Data scraping is key for AI because it facilitates the creation of large amounts of datasets for algorithms quickly and easily, but Canadian law does not currently address data scraping, putting it in a grey zone and slowing adoption. Deloitte's environmental scan of national AI strategies found that other jurisdictions are moving to create and adopt explicit text- and data-mining exceptions to copyright law—a move the Canadian government should emulate.<sup>8</sup>

**Make public data available for commercial use:** Federal, provincial/territorial, and municipal governments in Canada can help spur innovation by making public data available

in machine-readable format for commercial purposes. Making publicly held data such as utility, transportation, and health-care data available is a feature of national AI strategies in France, Germany, and China, and a focus for the European Commission.<sup>9</sup> The industry leaders we spoke to felt this would be valuable for AI training and application development. But this is not a comprehensive solution; public data becomes far more valuable when it can be combined with privately owned data.<sup>10</sup> To accelerate this, governments should increase collaboration with the private sector to ensure that data is released in an algorithm-friendly format.

**Revise privacy laws and data policies to reflect new realities and build trust:** Governments at all levels in Canada should revise privacy laws to reflect the increasing volume and rising complexity of data collected from citizens. Without Canadian policy leadership, our future economy will be shaped by new privacy frameworks in Europe and California—the jurisdictions that are currently articulating the new standards companies must meet.

Separate from privacy laws, the federal government and the Government of Ontario are both developing data strategies to maximize the value from data while, at the same time, limiting the inherent risks that come with data sharing (data sharing being necessary to maximize value). These strategies should set clear goals and boundaries for data governance and chart the underlying principles that will guide how Canadian companies are allowed to collect and use data. Government data policies should respond to low public trust in data handling and use, and recommend best practices to allow consumers to be genuinely in control of their data.

**Lay the groundwork for data trusts:** Data trusts—fiduciary trusts that hold and can make decisions about data on behalf of the individuals who generate the data—are a promising practice, especially for the management of public data. But awareness of data trusts is low; for these trusts to work, people need to understand their role in managing and protecting their long-term data rights.<sup>11</sup> Governments should also issue guidance and clarify the legal environment regarding data trusts—for instance, diligence standards for trustees—to enable and standardize their use.<sup>12</sup>



## 2 Creating operating certainty

To make large strategic investments in any technology, businesses need certainty about operating and regulatory conditions. However, AI in particular is outpacing Canadian law and policy in key areas like consumer protection, intellectual property, and anti-discrimination. We have laws in these areas that theoretically apply to AI use, but because AI is novel in many ways, businesses can't be sure how the existing laws will apply.

For instance, AI decision-making poses challenges to negligence law, which depends on being able to determine what is legally "reasonably foreseeable." This is because the black-box nature of algorithmic decision-making makes the "foreseeable" portion extremely difficult to accurately judge.<sup>13</sup> It is thus unclear how existing laws will apply to algorithmically assisted decisions. To create the conditions for business investment in AI, Canada needs to clarify the application and interpretation of existing laws or build upon existing laws, as Europe has done with the General Data Protection Regulation (GDPR).

Research shows that countries that lead in setting international technology standards derive an outsized share of the economic benefits that arise from those standards.<sup>14</sup> With other countries, such as the United States and China, actively trying to set the standards in areas that include data management and privacy, Canada needs to step up to ensure that international standards reflect Canadian values and benefit Canadian companies. But doing so requires clearly setting our domestic rules first.

## 3 Maintaining our lead on research

Canada is home to superstar AI researchers, leaders who are training a next generation of talent. The question is whether the members of this next generation will stay in Canada and whether their work will benefit the Canadian economy.

Due to the availability of research funding and a high quality of life, Canada has become a top destination for world-class AI research talent. To maintain this advantage, policy-makers need to ensure talent can stay and create value in this country. Experts and industry leaders told us that while Canada's immigration policy has been a comparative advantage, it's difficult for new international PhDs to remain stay here to start their own AI businesses. Expanding the startup visa program with a specific focus on AI and making it easier to qualify for the program is one possibility.

## 4 Helping companies commercialize and scale

World-leading researchers have provided Canada with the talent foundation for a strong ecosystem of AI startups and scaleups. However, such companies face serious challenges—challenges similar to those of other Canadian startups—and they're the reason so much of our top talent leaves Canada.

There are two critical challenges to scaling: access to capital and a global customer base. It's a longstanding concern that Canadian firms have less access to capital than their American counterparts at each stage of development.<sup>15</sup> But our roundtable with Canadian AI startups revealed that they also have poorer access to international markets and customers than their competitors.<sup>16</sup>

The Canadian government is trying to address the capital gap through its Venture Canada Action Plan (VCAP), which includes a \$400-million commitment to venture funding, and the recently announced Venture Capital Catalyst Initiative. However, given the billions other governments have invested in companies in other parts of the globe, these federal initiatives amount to only a good start in levelling the playing field for Canadian companies. The government should look at other ways to ensure more funding flows to startups and firms looking to scale.

The Canadian government can also make use of its trade strategy through Global Affairs Canada and Business Development Canada to push Canadian AI startups into international markets. Given the size of the opportunity, the federal government should create a single window for startups and firms looking to scale to connect with services, help them access capital, and connect them with export markets.



# Action area #2

## Prepare Canadians for change

A consistent theme that emerged in our conversations with leaders was how the widespread adoption of AI is going to fundamentally change how Canadians work. Shifting rote tasks away from human workers will change the composition and nature of the labour force in this country. This is not surprising, but what will be surprising is the scale and speed of that change. To mitigate the social dislocation that will likely result, public policy needs to prepare Canadians for the speed and scope of change, and the repercussions AI will have on society.

### Key priorities for prosperity

We need to better equip our workers for a changing labour market, and we need to reshape our social safety net to shield Canadians from being negatively affected by AI. More foundationally, we also need to be proactive in ensuring that everyone is literate in AI, and that we are all prepared to live in a society in which the importance of AI will only grow.

# 1 Foundation for growth: Promoting AI literacy

To prepare Canadians to respond to the social changes that AI will bring, governments need to invest in the strategies that ensure that all Canadians achieve a basic level of AI literacy, which includes understanding the impact of AI beyond work. AI literacy is the foundation that can help build buy-in and help Canadians share in AI prosperity.

## Why this matters for AI prosperity

The need for AI literacy was a consistent message we heard throughout our research for this series—from individual Canadians, industry experts, and leaders in government and academia. AI literacy is not about having a nation of machine-learning engineers. It's about understanding what AI is, the basics of how it works, and what it can and cannot do. It's the skill level needed to work alongside AI and to know when AI should or shouldn't be used.

It's necessary for public trust. Past Deloitte research found that Canadians feel deeply uninformed about how and when they were using AI, and that they jumped to examples from science fiction and popular culture when trying to explain AI.<sup>17</sup> Unless this changes, Canadian businesses will be slow to adopt AI and will be left behind by their global competitors.

As for public policy, citizens need to better understand AI so they can articulate how they want policy-makers and leaders to respond. At the same time, lawmakers themselves need a firm understanding or they risk creating policies that have unintended consequences.

## Public policy recommendations

**Invest in public education for AI literacy:** Canada needs to invest in broad-based public education about AI, using a variety of models and delivery channels. Students should develop the building blocks of AI literacy throughout their primary and secondary education, with a focus on developing a general understanding and fostering informed citizens. At the post-secondary level, specific AI concepts should be integrated into programs to prepare students to work with AI throughout their future careers.

Governments can also invest in public education outside formal educational institutions. One model is Finland's Elements of AI free online course, which is geared to people with no technical background.<sup>18</sup> This has allowed Finland to reach a large number of people at low cost. Experts told us that the popularity of the course outside Finland has also increased Finnish prominence in the global AI ecosystem.

## Provide training for public policy decision-makers:

Policy leaders and industry experts told us that regulators and policy-makers need a deeper understanding of the AI they regulate. Canada can draw from international examples, such as Harvard University's initiative to teach US Congressional leaders and staff about AI,<sup>19</sup> and the UK government's new Centre for Data Ethics and Innovation, which brings in an independent panel of experts to advise the government on how to maximize the benefits of data-driven technologies including AI.<sup>20</sup>

Some training for leaders is already underway in Canada. For example, the Cyberjustice Laboratory at the Université de Montréal is working with judges to teach them about emerging technologies. This should be continued and extended to other key professions. The federal government, for example, could use its Digital Academy at the Canada School of Public Service to ensure that the next wave of civil service leaders are equipped to craft policies around AI.

## 2 Equipping workers for a changing labour market

The conversation about AI and automation often focuses on job loss. But the truth is that more than disappearing, job requirements will change. Simpler analytical tasks will be done by AI, leaving humans the tasks that require different kinds of thinking or that need human oversight.

Even if this change leads to job growth in the long run, some workers will still be displaced in the short-term. The scale of this displacement may be significant. The Brookfield Institute for Innovation and Entrepreneurship at Ryerson University estimates that more than 40 percent of Canadian jobs are at risk from automation.<sup>21</sup> Past Deloitte research found that skills training and labour market reabsorption are key components of building public trust in AI in light of the anticipated labour force displacement.<sup>22</sup>

However, skills training in the AI economy doesn't mean teaching everyone to be coders or engineers. We need public policies to prepare workers for new types of tasks in industries that promise growth, including strong labour markets like health care.

Also, training opportunities must help workers prepare for jobs that will provide, at minimum, a comparable level of income and stability to what they enjoyed in the pre-AI economy.

To address some of these concerns, the Government of Canada has committed to a \$360-million, six-year investment in a new Future Skills Centre to create research knowledge and best practices for training for emerging opportunities.<sup>23</sup> However, this funding does not address one of the key issues with skills training: many Canadians who need it the most currently don't qualify. The biggest source of training support for displaced workers is tied to eligibility for Employment Insurance (EI). Because of changes to the nature of employment, such as the rise of the gig economy, EI now covers a far smaller share of the workforce than when those supports were introduced. To respond to these changes, Canada needs to reimagine how we deliver skills training to make it available to more workers, either by uncoupling skills training support from EI or by widening the scope of EI benefits.



### 3 Upgrading our social safety net

AI's changes to the labour market will place pressure on our social safety net over the next 10 to 20 years, both in the number of people affected and their needs. This is true whether AI leads to more and better work overall or a net replacement of jobs.

Currently, Canada's social safety net is unprepared for an AI-driven, short-term surge in unemployment. Employment insurance benefits are available to less than 40 percent of unemployed workers today, down from 85 percent 30 years ago, due to changes in eligibility rules and employment practices.<sup>24</sup> Also, gig economy workers, contractors, and self-employed people rarely qualify for EI.<sup>25</sup>

As workers from a variety of professional backgrounds face job change and displacement, policy-makers should ensure that eligibility rules and program design for EI matches the changing—and more precarious—nature of work in the 21<sup>st</sup> century. Governments should also consider creating more portable benefit structures for pensions and health benefits, ones that are less tied to employers.<sup>26</sup>



# Action area #3

## Mitigate risk, build trust

AI has the potential to create large-scale benefits for Canada, but it is certain to create new challenges as well. Our report *Overcoming risks, building trust* highlighted Canadians' unease about AI's impact on Canadian society, including concerns that AI could deepen existing social problems such as bias and inequality. For Canada to advance as a global AI leader, its citizens need to trust AI. The only way we can do this is to make sure AI *deserves* public trust, which can be achieved by developing strong public policies that ensure the public good is protected.

### Key priorities for prosperity

**Our research revealed that, to earn the trust of Canadians, government action will be crucial in several areas. First, governments at all levels should think about modernizing laws to account for possible biases in AI. Second, they can lay out clear privacy laws that don't stifle innovation but do protect Canadians' rights in the digital age. And most fundamentally, we as a nation need to ensure that algorithms built in Canada for Canadians are transparent and that the companies behind them are accountable for them. Only then can we ensure that Canadians trust AI, and that the algorithms created here deserve our trust.**

# 1 Foundation for growth: Building systems for transparency and accountability

Companies and governments can put in place policies to address bias and safeguard privacy, but two vital ingredients for governments and citizens to monitor the policies' effectiveness and progress are transparent and accountable systems. To ensure that we can mitigate the risk of an AI backlash, building systems for transparency and accountability must be a foundation of the public policy we develop for AI.

## Why this matters for AI prosperity

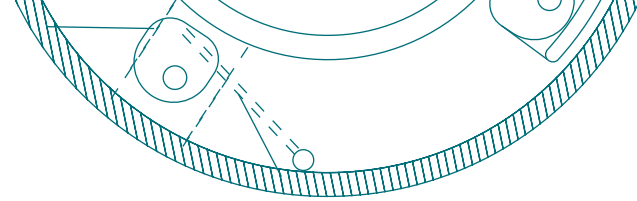
Deloitte research shows that people don't trust AI in part because they don't understand how AI makes decisions. They worry that humans will be left out of the loop—that decisions about their lives will be made arbitrarily, or against their interests.

This mistrust stems in part from the fact computers can't explain how they arrive at conclusions, at least not to people without AI expertise. For most citizens, data goes in and predictions come out; the actual algorithmic decision-making

happens inside a black box. For people to be comfortable working with AI, they need to be able to see inside this black box to understand how decisions or predictions are made.

The challenges faced by IBM Watson Health is an example of how not being able to see inside the black box leads to a lack of trust. In one instance, when doctors agreed with Watson's proposed course of treatment, they thought the technology was redundant. Conversely, when Watson and the doctors disagreed, the doctors were distrustful because they didn't understand Watson's reasoning. Despite high initial uptake, Watson was largely unused.<sup>27</sup>

Transparency and accountability issues also pose problems regarding liability. Both citizens and businesses want to know who is legally responsible when something goes wrong—the business, the AI vendor, or the programmer. Answering this question means determining whether the technology malfunctioned, whether there was user error, or whether it was used for purposes other than what it was built for. Finding out requires going inside the black box.



## Public policy recommendations

**Clarify requirements for explainability:** The Government of Canada can help businesses by setting guidelines for explainability, which means being able to describe how algorithms make decisions. This is key in areas like consumer protection. Given the technical nature of algorithms, and the need to ensure companies can protect their competitive advantage, guidelines need to be developed in close collaboration with industry experts.

**Develop standards of procedural fairness for AI-assisted decision-making within government:** All levels of government have a legal duty of procedural fairness when they make certain kinds of decisions (e.g., benefit eligibility or immigration status). This often requires the government to be able to explain how it makes decisions, even if nothing goes wrong in the decision-making process. As AI becomes a part of government decision-making, the rules concerning procedural fairness and AI must be mapped.

**Develop a clear framework for the use of AI in government and an independent body to assess impact:** Governments need a clear, transparent framework to decide when and how they use AI. The newly released

federal Directive on Automated Decision-Making is a useful building block. As governments start to explore using AI for activities that have major implications for people's freedoms (e.g., criminal justice, immigration), the directive should continue to be updated (perhaps in conjunction with provincial governments) and strengthened.<sup>28</sup>

Interviewees told us that legislative bodies in Canada should think about proportionality and use a tiered approach to AI's role in decision-making. This means that the level of human oversight and intervention should be proportional to the impact the decision will have on a person's life. For example, a final decision on a person's refugee status should have a high level of human control, whereas a chatbot that responds to a person's questions about using government archives needs significantly less.

To help with oversight, the federal government should consider establishing an independent body to assess government algorithm use. Provincial and local governments could be given the option to work with the body as well.<sup>29</sup> This approach would provide a one-stop shop for government to ensure that accountability mechanisms are in place.

## 2 Tackling bias in machine learning

One of the major findings of our earlier research is that there is deep public concern about bias in machine learning.<sup>30</sup> This is reinforced by recent high-profile news stories such as algorithms providing sexist hiring advice<sup>31</sup> and recommending more punitive sentences or bail conditions for defendants of certain races in the US justice system.<sup>32</sup>

The problem is not that AI is malicious—algorithms make decisions based on their design and the data they are trained on. For example, if a company disproportionately hires men over women, an algorithm using company data to predict and recommend typical hires will also favour men over women. The algorithm isn't malfunctioning: it is picking up the patterns in human behaviours and amplifying the inherent biases and flaws in our own decision-making.

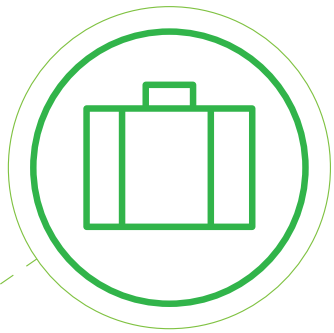
From a public policy perspective, Canada already has comprehensive anti-discrimination laws, but they were written without the realities of AI in mind. There is space for government to help by clarifying how current discrimination regulations apply to AI. The judiciary can also clarify the consequences to companies that ignore or even magnify bias and discrimination through careless deployment of AI.

## 3 Modernizing privacy rights

Our research found that Canadians are seriously concerned about privacy and AI, specifically about how and when their data is collected, stored, used, and shared without explicit permission.<sup>33</sup> Canada has a strong privacy regime, with clear underlying principles. But legislation, regulation, and standards built on those principles haven't been updated to reflect the AI economy. For example, AI-powered algorithms, including facial recognition tools, present new questions about reasonable expectations of privacy.

The industry experts we spoke to contrasted the European Union's GDPR and China's looser approach to privacy rights as opposite ends of the spectrum regarding privacy and AI. They felt there is room for Canada to stake a leadership position in the space between these models. If Canada can find a balance that both prioritizes privacy and fosters innovation, it can set a new global standard.

# The role of the private sector



The responsibility for effective public policy doesn't lie solely with governments. Throughout all the action areas we have identified, government leaders, business leaders, and researchers need to work collaboratively to get policy right. And there are some areas where Deloitte believes business should take a leadership role.

## Action area #1: Fuel the AI economy

- Businesses can act to stabilize the operating environment by collaborating with each other to develop industry standards for AI. Business-originated standards also have advantages in that they can be implemented faster than regulation and are often voluntary (the standards may serve as a starting point for governments when they begin developing regulation). The CIO Strategy Council has started work on developing industry standards for the ethical use of machine learning and data access and privacy, which other industry groups should emulate.<sup>34</sup>
- Businesses can also lead by making better use of—and even sharing—their own data. While businesses must protect proprietary data and customer privacy, they also need to prepare to take advantage of AI by establishing a company-wide data strategy. Beyond that, certain industries have a clear business case to pool their data to capitalize on far larger datasets than any one company could capture alone without infringing on its customers' rights. These shared data lakes could be used, for example, to solve know-your-customer and anti-money-laundering challenges in financial services.

## Action area #2: Prepare Canadians for change

- Industry and professional associations can step up to provide professional development that supports AI literacy. Some associations, like the Law Society of Ontario, are offering optional continuing professional development courses on the role of AI in practice.<sup>35</sup> Also, NEXT Canada has developed a professional development program for business leaders to prepare them for AI adoption.<sup>36</sup> This is a start, but it does not go far enough. To avoid being left behind, professional associations should require their members to take continuing AI-focused technological education.

## Action area #3: Mitigate risk, build trust

- Businesses can take proactive steps to build internal AI accountability. This can take the form of external algorithmic audits, reports to the board, internal oversight bodies, or voluntary industry self-regulating bodies. Accountability and transparency within companies is not only about building public trust—it also makes organizations less susceptible to the risks they face with AI, which in turn mitigates risk to shareholders, employees, and customers.

# Conclusion

Artificial intelligence may be one of the most critical economic and social drivers of our era. Maximizing Canada's potential to capitalize on the opportunities AI presents while mitigating its risks requires strong, bold leadership. To achieve AI prosperity in Canada, it's critical we get public policy right on three key pillars: creating growth in an AI-driven economy, advancing the public good, and building trust in institutions and in society.

Canada's first public investments when AI was in its infancy led us to our current position of strength. The federal government is continuing to invest in research and talent with the Pan-Canadian AI Strategy. But it's time to move beyond traditional strengths in research and prepare for the broader changes we know are coming.

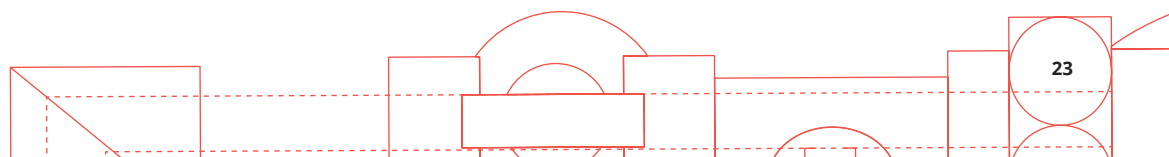
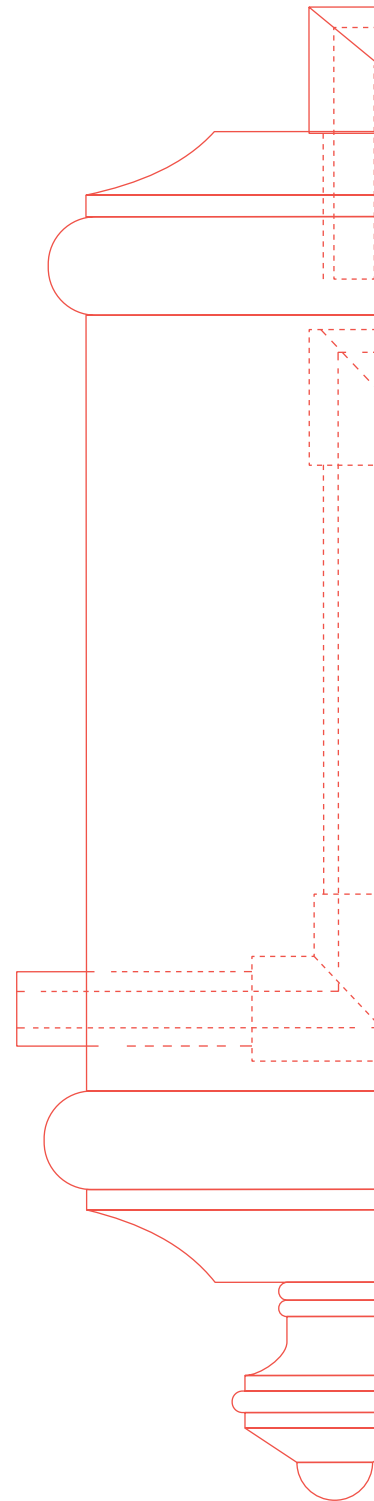


If Canada falls behind other countries in supporting a domestic AI industry, the rules of the game for AI will be decided by other global players and our AI companies may be crowded off the global stage for lack of funding and support. We also risk the health of our entire economy, as businesses may struggle to compete in an AI-driven environment.

If we don't prepare Canadians for the changes we know are coming with widespread use of AI, we will likely face a skills mismatch as great numbers of workers struggle with the transition to an AI-driven world. Large portions of our workforce also face the risk of slipping through the cracks, unable to take advantage of a social safety net designed in—and for—another era.

But responding full-force to the AI opportunity does not just mean focusing on the business benefits and drawbacks. It is essential to build and maintain public trust in the technology. As more and more companies adopt AI, policy-makers must think carefully about how to deal with tricky issues such as bias and privacy. Society has an expectation of transparency and accountability, without which we will never fully dispel concerns about AI. We need to set our course carefully. We need to get it right.

Canada's AI moment is right now. With a strong, cross-cutting approach to public policy, we can seize the opportunity and achieve AI prosperity to the benefit of all Canadians.

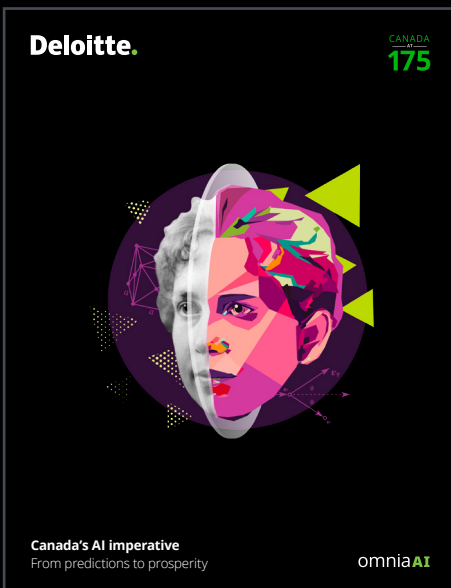


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## Canada's AI imperative

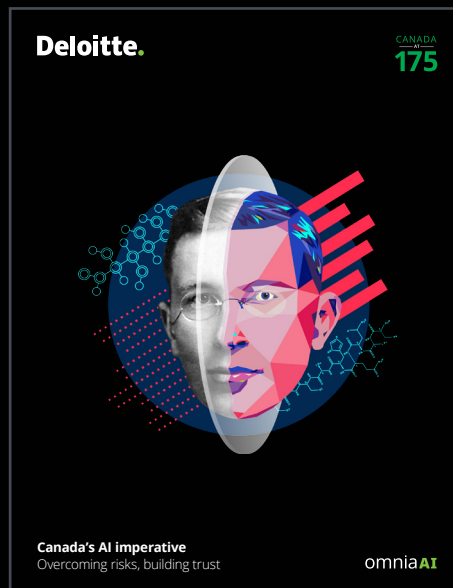
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