

# From Chatbots to Self-Driving Cars

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The Legal Risks of Adopting Artificial  
Intelligence in Your Business

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“From Chabots to Self-Driving Cars” is part of McCarthy Tétrault’s Transformative Technologies series of White Papers and accompanying seminars. McCarthy Tétrault’s extensive experience advising clients in these areas has led us to develop excellence in thought leadership.

For more information on our Transformative Technologies experience, contact Kirsten Thompson, Partner and Co-Lead of the Privacy, Cybersecurity and Data Management group at [kthompson@mccarthy.ca](mailto:kthompson@mccarthy.ca) or 1-416-601-7797.

# Table of Contents

Overview.....	1
Part I: What is AI? .....	2
Overview .....	2
AI from a legal perspective .....	4
Part II: Mapping AI in Canada and Around the World ....	7
North America .....	8
CANADA.....	8
UNITED STATES OF AMERICA .....	10
United Kingdom.....	11
Europe.....	12
GERMANY .....	13
FRANCE .....	13
SWITZERLAND.....	14
Asia .....	15
CHINA.....	15
SOUTH KOREA.....	16
SINGAPORE .....	17
JAPAN.....	17

<b>Part III: Legal Risks Associated with Deeper AI Integration</b>	<b>18</b>
Privacy law	19
Intellectual property law	21
Employment and labour law	23
Contract law	24
Competition law	25
Tort law and class actions	26
<b>McCarthy Tétrault's AI Team Can Help.</b>	<b>28</b>
Integrate AI into your business.	28
Why McCarthy Tétrault	28

## Spotlight

AI in the financial services sector.	6
Autonomous vehicles	14
AI & the oil, gas and mineral extraction sectors.	17
AI & privacy regulations	21
AI & the retail and consumer facing sector	23
AI & the life sciences and pharmaceutical sectors	27

# Overview

Artificial intelligence (AI) provides tremendous opportunities for businesses to increase operational efficiencies, improve corporate strategies and reduce costs, among countless other possible uses. However, the expected value contribution of AI to business and government is at least as great as the risks associated with deeper AI integration and more complex AI systems. Organizations which understand the legal risks can take steps to reduce them and ultimately realize a greater return on the up side of AI.

The transformative nature of AI technology will impact law and policy. The extent to which AI systems can reasonably be governed by existing legal doctrines remains to be seen, and, as presented in this paper, depends on the nature, purpose and control of specific AI applications. A comprehensive understanding of legal doctrine may seem abstract, but the governance of transformative technologies requires lawyers to return to first principles – then leap forward to anticipate risks, and craft innovative legal strategies to mitigate those risks.

**McCarthy Tétrault is thinking ahead to cross-disciplinary ways in which AI and the law will intersect to provide comprehensive advice to our clients to enable them to quickly and competitively unlock the value of the technology.**

This White Paper explores some of the conceptual and practical legal issues arising from the integration of AI into organizational processes, operations and business models. We identify some of the key AI-related considerations for any risk management strategy across areas of law. In so doing, we raise issues relevant to corporate risk management as well as those associated with a broader discussion about AI regulatory frameworks.

“In the sphere of business, AI is poised have a transformational impact, on the scale of earlier general-purpose technologies. Although it is already in use in thousands of companies around the world, most big opportunities have not yet been tapped. The effects of AI will be magnified in the coming decade, as manufacturing, retailing, transportation, finance, health care, law, advertising, insurance, entertainment, education, and virtually every other industry transform their core processes and business models to take advantage of machine learning. The bottleneck now is in management, implementation, and business imagination.”<sup>1</sup>

1 Erik Brynjolfsson and Andrew McAfee. “The Business of Artificial Intelligence: What it can – and cannot – do for your organization”. Online <https://hbr.org/cover-story/2017/07/the-business-of-artificial-intelligence>.

This White Paper is divided into three parts:

- **Part I** offers a definition of AI that, unlike most common definitions, incorporates a legal perspective.
- **Part II** surveys some of the hotspots for regulatory investment and burgeoning innovation in Canada and around the world.
- **Part III** drills down into questions that are likely to arise in specific legal areas such as employment, competition and privacy law. This section explores issues implicated by strong AI in particular, across various areas of law.

## Part I: What is AI?

### Overview

AI is a term often used to describe many different tasks a computer system can perform. There is no consensus definition of AI, and the ongoing philosophical debate about “what is AI” is well beyond the scope of this White Paper. However, at a high-level, AI is an umbrella term that refers to a computer system’s ability to perform tasks normally associated with human intelligence.<sup>2</sup>

The term AI incorporates different system processes, including natural language processing, visual recognition, machine learning, and deep learning. A brief explanation of each follows:




- **Natural language processing** refers to a system’s ability to process and understand human language in order to convert human language into comprehensive representations (e.g. chat-bots, real-time text translation).
- **Visual recognition** uses deep learning algorithms to analyze and understand images including scenery, objects, people and animals, colours, etc.
- **Machine learning** is, in short, a self-teaching computer system. Machine learning systems analyze large quantities of data to make decisions based on statistical predictions.
- **Deep learning** operates using artificial neural networks (inspired in design by the human brain) to train computer systems on large quantities of data to recognize patterns in digital representations of sounds, images, and other data.<sup>3</sup>

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<sup>2</sup> [https://en.oxforddictionaries.com/definition/artificial\\_intelligence](https://en.oxforddictionaries.com/definition/artificial_intelligence)

<sup>3</sup> With reference to Robert Hof, Deep Learning, MIT Technology Review, <https://www.technologyreview.com/s/513696/deep-learning/>

#### AI INVOLVES MAPPING FROM A SET OF INPUTS TO A SET OF OUTPUTS. FOR EXAMPLE:<sup>4</sup>

 Input	 Output	 Application
Historical market data	Future market data	Trading bots
Photograph	Caption	Image tagging
Drug chemical properties	Treatment efficacy	Pharma R&D
Store transaction details	Fraudulent transaction	Fraud detection
Purchase histories	Future purchase behaviour	Customer retention
Faces	Names	Face recognition

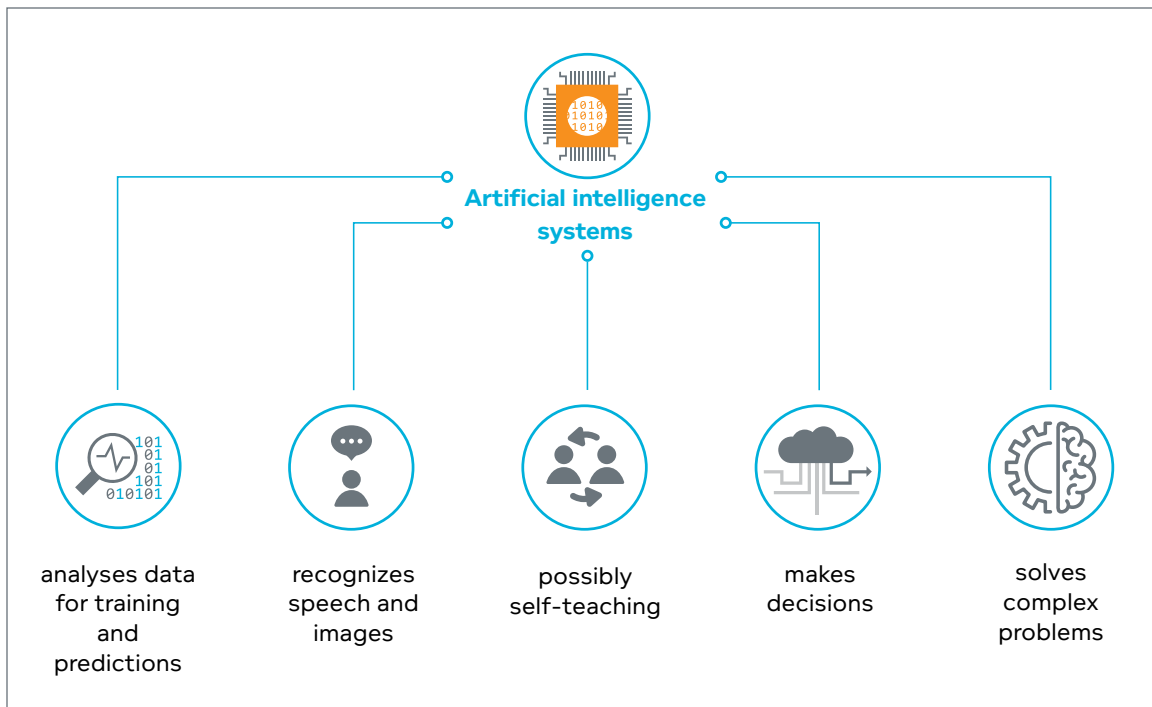
AI systems span the spectrum of capabilities from simple automated tasks such as virtual assistants, such as Apple's Siri (known as "weak AI"), to much more complex tasks involving self-training and decision-making, such as autonomous vehicles (known as "strong AI").

AI systems don't arrive out of the box, ready to go. They must be trained to perform the desired task or process. Training can involve providing the AI system with a large quantity of data and, as it processes the data and arrives at conclusions, the conclusions are verified or corrected. AI systems are trained using one of the following three methods. These different methods can be informative to a legal analysis of liability depending on the training method chosen and the degree of human intervention. They are:

1. **supervised learning**, which relies on human verification of an answer to an input;
2. **unsupervised learning**, which involves minimal to no human verification but which requires a system to learn from the analysis of inputs; and,
3. **reinforced learning**, which is like teaching a dog a new trick. Often used in robotics or to teach a system to play a game, reinforced learning operates through the reward of a single or series of desired actions taken by a system in the pursuit of optimal goals.

<sup>4</sup> Adapted from Erik Brynjolfsson and Andrew McAfee. "The Business of Artificial Intelligence: What it can – and cannot – do for your organization". Online <https://hbr.org/cover-story/2017/07/the-business-of-artificial-intelligence>.





## AI from a legal perspective

Applying a legal lens to the definition of AI is especially important for “strong AI” systems because of their increasingly unpredictable and autonomous dispositions. When building, training, buying or deploying an AI system, understanding the nature, purpose and control of the system will enhance a practical risk management approach.

The questions we pose below are conceptual in nature, but they are important because thinking through the elements of an AI system has a direct bearing on the legal analysis of liability. For example:

What is the nature of the AI system? Is the system best characterized as **a product, a service** or something else?

- Are software-based AI systems best characterized as “products”? If so, are the existing principles of product liability law sufficient to regulate harm caused in the use of an AI-system? If not, why and what other legal regime may be better suited to govern?
- Is the AI system best characterized as a service? If so, is liability limited to contractual remedies against the supplier, for instance?

- Should a contract for the purchase or deployment of an AI system seek to specify the nature of the system?

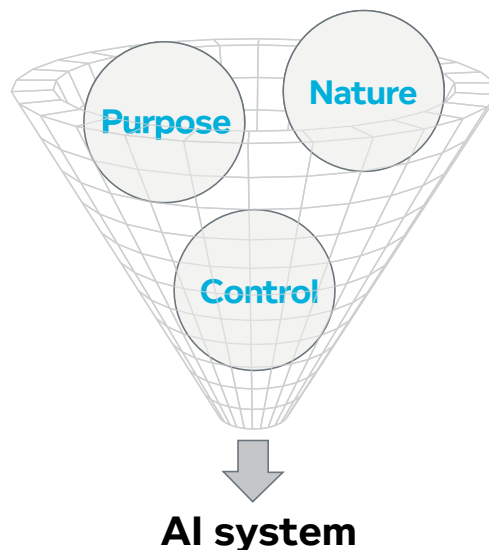
What is the purpose of the AI system? Is the AI system intended to act as an **instrument or a tool, an agent or an autonomous “person”**?

- Like a truck to a truck driver, in what circumstances is the AI system best characterized as an instrument or a tool for which the user is most exposed to liability when a harm is caused?
- If agent, in what circumstances, if any, do the principles of vicarious liability apply to a harm caused in the course of operation?
- If autonomous person, can a system be independently liable for a harm it has caused? If so, what are the implications and how is compensation for damage effected?

Who has control over the AI system: the **creator/programmer**? **The user**? The system is **fully autonomous**?

- If programmer, at what point, if any, does the programmer lose control of the system, and what are the implications? In what contexts is a programmer required to disclose the particulars of the algorithm? What norms should be created around responsible programming?
- If user, to what extent is the user able to control or influence the manner in which the AI system learns and/or operates? What norms should be created around responsible usage?
- If fully autonomous, can an AI system be held directly liable for harm? If so, how? What are the legal implications of extending liability to an autonomous artificial agent?

#### LEGAL CONSIDERATIONS FOR AI SYSTEMS



Organizations deploying these systems should think about the characterization of the AI system they adopt as it will be difficult to frame meaningful questions about risk and risk mitigation without having first developed a conceptual framework. Developing a broad and deep understanding of the AI system the organization is building, buying or deploying is critical to mitigating risks and protecting against liability.

“Legal and policy advisors are grappling with the fundamental questions arising from the transformative technology that is artificial intelligence. The issues are neither neat nor simple nor unambiguous. They are deeply rooted in societal values and a shared vision of what we want our future to look like.”

—Carole Piovesan, Litigator and Team Lead on AI, Privacy, Cybersecurity and Data Management group, McCarthy Tétrault LLP

## SPOTLIGHT

### AI IN THE FINANCIAL SERVICES SECTOR

Financial services are incorporating AI systems in at least three of the following ways:

1. *Investments and portfolio allocations* – Many current roboadvisers are using AI to determine portfolio allocations and manage and optimize assets as they grow.
2. *Compliance* – Regulatory technology (“RegTech”) is being used by banks and other financial institutions to help manage the rapidly changing financial regulatory environment and significantly reduce the costs of compliance.<sup>5</sup> Financial institutions can use AI to process records they have available to them to ensure that they are meeting minimum regulatory standards. In addition, whenever there is a change in the regulation, institutions can quickly use AI to amend compliance checks to comply with the new standards.
3. *Chatbots* – AI-powered chatbots that can interact with customers through a bank’s digital channels — online, mobile and social media — as well as programmable software bots that can perform administrative tasks such as processing mortgage applications and other more routine tasks, are increasingly being deployed by financial institutions to reduce cost and increase efficiencies.<sup>6</sup>

<sup>5</sup> Steve Culp, “Artificial Intelligence Is Becoming A Major Disruptive Force In Banks’ Finance Departments”, Forbes, February 15, 2017. Online: <https://www.forbes.com/sites/steveculp/2017/02/15/artificial-intelligence-is-becoming-a-major-disruptive-force-in-banks-finance-departments/#6d9079734f62>.

<sup>6</sup> See <http://business.financialpost.com/news/fp-street/rise-of-the-robot-banks-using-artificial-intelligence-upfront-and-behind-the-scenes>.

## Part II: Mapping AI in Canada and Around the World

Where are the hotspots of AI innovation and regulation in Canada and around the world? How does innovation relate to regulation, and what can organizations expect in Canada? Our research suggests that wherever there are large investments in innovation, there are growing and intensifying debates about regulation.

Based on our research there appear to be two main schools of thought on the role of regulation. One school of thought believes innovation should be left unhindered because ill-tailored regulation will stifle innovation, ultimately leading to economic stagnation and the flight of innovators to other, more permissive jurisdictions. The second school of thought believes quite the opposite: flexible regulation creates certainty and predictability that attracts innovation of main and corollary industries. Instead of fleeing, innovators relocate to the regulated jurisdiction because long-term stability and regulatory certainty are established. Notwithstanding the various schools of thought, there is general acceptance that an informed discussion about the legal and regulatory implications of AI is warranted, sooner rather than later.

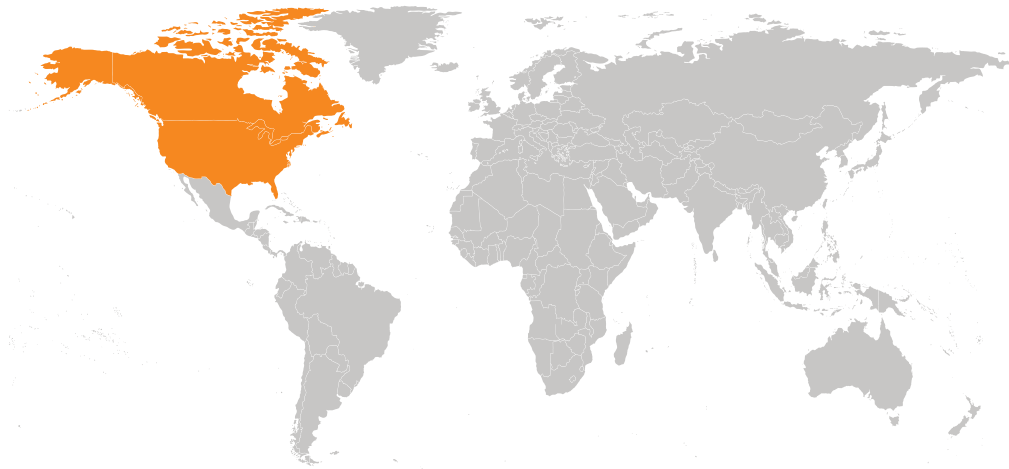
A number of countries around the world are investing heavily in AI innovation, noting AI as a future engine of rapid GDP growth and economic competitiveness. It is often less clear, however, whether the same effort is being invested in discussions about responsible AI development and regulatory considerations. As will be discussed below, China, the United Kingdom and the European Union have made recent public announcements about engaging in deeper discussions about and reviews of AI's legal and policy implications. Non-governmental actors are also playing a critical role in ethical, legal, social and economic debates about AI. For instance, the 2017 Asilomar Conference, involving some of the leading thinkers in AI, released a list of 23 principles that include ethical and societal values for beneficial AI development.<sup>7</sup>

The extent to which AI should be regulated, how to regulate AI, when to regulate AI and who should regulate AI are policy issues that are deeply intertwined with legal philosophies and tools. This section consolidates our research on some of the regulatory and innovation hubs in Canada and around the world to provide a snapshot of what is happening globally to responsibly create vibrant and prosperous AI innovation hubs.

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<sup>7</sup> See <https://futureoflife.org/ai-principles/>

## North America



### CANADA

AI activity has flourished in Canada in part because of the availability of talent, provincial and federal research grants, a stable political environment and relatively open immigration rules. When global AI-related investments dwindled in the 1980s and 1990s, the Canadian government continued to fund AI research, building a strong network of academic institutions supported by leading thinkers. Between 2012 and 2016, AI deal activity in Canada steadily increased. However, in the first half of 2017, the 12 deals valued at US\$162 million have already surpassed the record historical annual investment high of US\$143 million in 2015.<sup>8</sup>





In early 2017, the Prime Minister established a new department known as Innovation Canada, established to better coordinate the supports available to Canada's innovative companies, including AI companies. The Canadian government also announced in 2017 its Pan-Canadian Artificial Intelligence Strategy to commit C\$125 million to aid Canadian AI research and development (R&D). This strategy seeks to increase the number of AI researchers and graduates in Canada; establish hubs of scientific excellence in Edmonton, Montreal and Toronto; establish Canada's global thought leadership on the economic, ethical, policy and legal implications of AI; and, foster and support a national research community on AI.

In addition to AI-specific investments, the federal government has pledged C\$950 million from 2017 to 2022 to the "Innovation Superclusters Initiative".<sup>9</sup> This initiative will be led by a consortium of industry players and will be responsible for outlining priorities for the superclusters.

<sup>8</sup> PwC & CB Insights, MoneyTree Canada Report (Q2 2017).

<sup>9</sup> <https://www.ic.gc.ca/eic/site/093.nsf/eng/00003.html>. A cluster is a network of interconnected entities bound by similar pursuits and proximate geographic location.

## KEY ELEMENTS OF THE CANADIAN AI ECOSYSTEM

	Edmonton	Toronto-Kitchener/Waterloo	Montréal
 <b>Academic Institutions</b>	<b>University of Alberta:</b> The Reinforcement Learning and Artificial Intelligence (RLAI) Program is supported by internationally renowned researchers in the field of reinforcement learning.	<b>University of Toronto (U of T)/University of Waterloo</b> U of T has drawn on the leadership of one of the world's leading deep learning researchers and is home to the U of T Machine Learning Group.	<b>Université de Montréal/McGill University</b> Montréal has developed a concentration of expertise concerning both reinforcement learning and deep learning.
 <b>Multistakeholder Collaborative Institutions</b>	Alberta Machine Intelligence Institute (Amii), supported by the Alberta Ministry of Economic Development and Trade and the University of Alberta Bionic Limbs for Improved Natural Control (BLINC)	Vector Institute over 30 leading Canadian and international companies have pledged to support the institution Home to the Canadian Institute for Advanced Research (CIFAR)	Montreal Institute for Learning Algorithms (MILA) Institut de Valorisation des Données (IVADO)
 <b>Government Support</b>	Alberta has committed a 15 year C\$40 million investment in the University of Alberta through the Alberta Innovates program.	C\$50 million commitment by the Ontario Government.	Federal research grants totaling over C\$213 million. Provincial commitment to provide C\$100 million over 5 years.
 <b>Large Corporate &amp; Start-Up/VC Activity</b>	Investments by established firms capitalize on the proximity to Amii, RLAI and one of the world's top reinforcement learning thinkers: – AI Research Lab of a Major Canadian Financial Institution – AI Subsidiary of Large US Technology Company 10+ AI start-ups in the region. <sup>10</sup>	Significant start-up ecosystem which has carried out numerous funding rounds and exits. Large companies based in Toronto continue to grow AI expertise through acquisitions. The urban innovation unit of a major international technology company has applied to redevelop a portion of Toronto's waterfront as a high-tech "Internet-Up" district. 200+ AI start-ups in the region. <sup>11</sup>	A major American software company has pledged to invest C\$7 million in AI research in Montréal. Numerous AI start-ups, with one prominent company raising C\$102 million in series A funding in a single funding round. 90+ AI start-ups in the region. <sup>12</sup>

10 Jean-François Gagné, "Mapping the Canadian AI Ecosystem" (last updated: June 2, 2017): <http://www.jfgagne.ai/blog/2017/4/24/mapping-the-canadian-ai-ecosystem>.

11 Ibid.

12 Ibid.

Vancouver is another Canadian city with potential in the AI space. It is home to the University of British Columbia and Simon Fraser University as well as several technology incubators/accelerators supported by multinational technology companies and early-stage venture capital investors. There are over 100 AI start-ups in the Vancouver region.

## UNITED STATES OF AMERICA

In 2016, the White House's National Science and Technology Council (NSTC) published a National Artificial Intelligence Research and Development Strategic Plan setting forth a policy roadmap for AI. The Machine Learning and Artificial Intelligence subcommittee of the NSTC, established to track global AI advances, has been renewed through January 2018.<sup>13</sup>

The Defense Advanced Research Projects Agency (DARPA) continues to fund R&D of AI applications for both military and civilian purposes.<sup>14</sup>

The US Congress has established an Artificial Intelligence Congressional Caucus with the goal to inform policymakers of the technological, economic and social impacts of advances in AI and to ensure that rapid innovation in AI.<sup>15</sup>

### KEY CLUSTERS OF AI ACTIVITY IN THE US

#### San Francisco Bay Area/ Silicon Valley

- World leading innovation hub for AI start-ups.
- Innovation is being supported by programs and research centres at Stanford, UC Berkeley (BAIR Lab) and UC San Francisco (Centre for Human-Compatible AI).
- Established research presence by numerous leading technology firms.
- Non-profit research organizations, such as OpenAI.

#### Boston

- Hub for health-related AI research including numerous partnerships between hospitals and major firms.
- Ecosystem supported by the MIT, Harvard University and the University of Massachusetts Amherst.
- The City of Boston launched "Starthub" to support technology and innovation in Boston and eastern Massachusetts.
- In 2016, Massachusetts was estimated to have the third highest number of AI start-up deals

#### New York

- Presence of accelerator programs such as the AI NexusLab run by Future Labs at NYU Tandon School of Engineering and ff Venture Capital provides support and mentorship to AI start-ups.
- Presence of prominent labs and research institutes such as the AI Nexus Lab.
- In 2016, New York State was estimated to have the second highest number of AI start-up deals.

<sup>13</sup> <http://www.pbs.org/wgbh/nova/next/tech/ai-government-policy/>

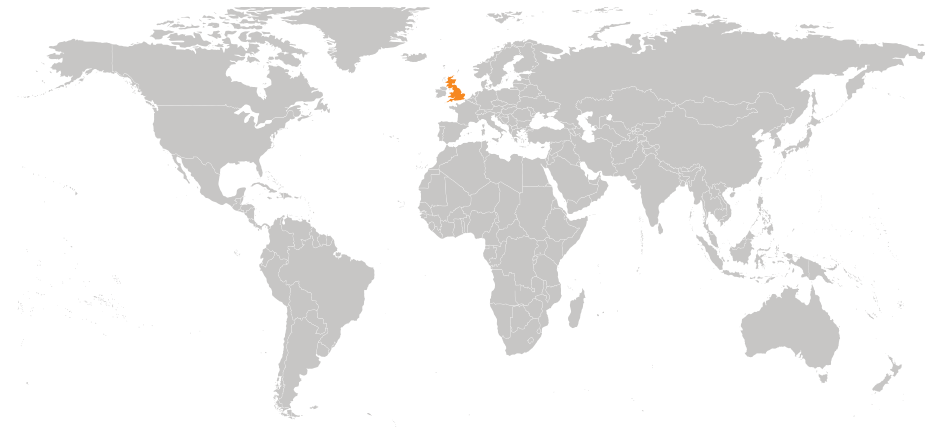
<sup>14</sup> The Defense Technical Information Center, which reports to the Assistant Secretary of Defense For Research and Engineering includes in its budget over 200 funded initiatives involving AI. See: <http://www.dtic.mil/dti>.

<sup>15</sup> <https://delaney.house.gov/news/press-releases/delaney-launches-bipartisan-artificial-intelligence-ai-caucus-for-115th-congress>

<sup>16</sup> <https://www.cbinsights.com/research/artificial-intelligence-startup-us-map/>

<sup>17</sup> <https://www.cbinsights.com/research/artificial-intelligence-startup-us-map/>

## United Kingdom



The UK House of Commons' Science and Technology Committee recently published a report on robotics and artificial intelligence with recommendations for supporting AI research.<sup>18</sup> The Government Response contained in this report stated:

Government recognises the significant potential implications of Artificial Intelligence for society and the economy. It will be important to address the social, ethical and legal questions, to ensure the development of these technologies fully benefit society and to build confidence in UK developments in the sector.

In addition, the UK is replacing the *Data Protection Act, 1988* with the new Data Protection bill that will incorporate the principles the *EU General Data Protection Regulation*.<sup>19</sup>

### KEY CLUSTERS OF AI ACTIVITY IN THE UK

- Talent pool and knowledge base supported by applied mathematics, computer science and machine learning programs at leading universities in and around London.
- Ecosystem supported by the Association for the Advancement of Artificial Intelligence, the Alan Turing Institute and the Royal Society's Machine Learning Working Group.
- Active M&A market for AI firms. Landscape consists of established multinational firms and numerous early-stage applied AI firms supported by a strong network of angel investors and early-stage venture capital funds.
- Activity in numerous sectors including vertical applications in FinTech, healthcare, entertainment, retail, infrastructure, retail and marketing.
- National support through a £600 million investment in the '8 Great Technologies' including robotics and autonomous systems and through Innovate UK which, starting

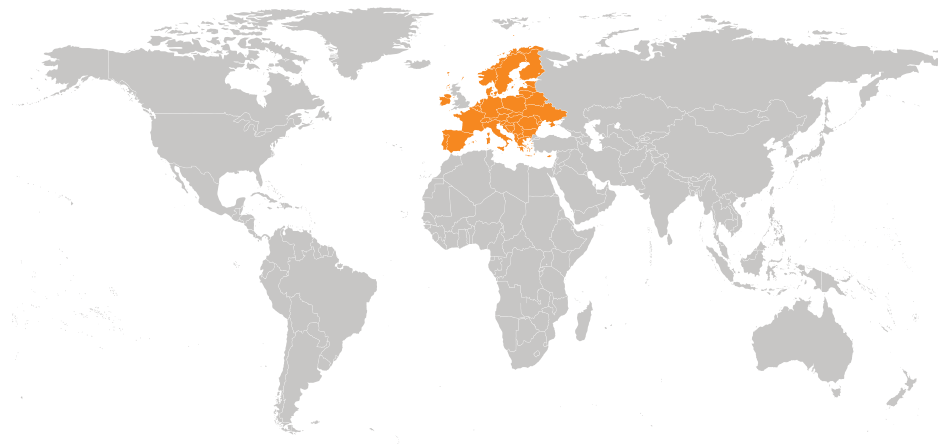
<sup>18</sup> See "Robotics and artificial intelligence: Government Response to the Committee's Fifth Report of Session of 2016-17"

<sup>19</sup> <https://www.gov.uk/government/consultations/general-data-protection-regulation-call-for-views>



in 2017, will advise on how to distribute £93 million over the next four years from its £1 billion Industrial Strategy Challenge Fund (ISCF) to support artificial intelligence and robotics R&D.<sup>20</sup>

## Europe



The European Parliament passed a resolution on February 16, 2017 titled “Civil Law Rules on Robotics”. The resolution asked the Commission for rules on robotics and AI to exploit the economic potential and to guarantee a standard level of safety and security.<sup>21</sup>

The European Parliament has since launched public consultations on robotics and AI. In addition, the *EU General Data Protection Regulation* will come into force in May 2018.

### KEY CLUSTERS OF AI ACTIVITY IN EUROPE

- The EU and European Commission are a significant source of funding and collaborative organization amongst countries within the European Research Area through the Framework Programmes for Research and Technological Development.
- Funding for the Framework Programmes continues to grow with an estimated €80 billion to be invested between 2014 and 2020.<sup>22</sup> The Framework Programmes are funded through individual instruments targeted at multilateral projects between member states.
- AI-related projects in the European Research Area have received funding and support from Framework Programmes such as the Interaction and Robots Programme and the Future and Emerging Technologies (FET) Programme.

<sup>20</sup> <https://www.gov.uk/government/news/600-million-investment-in-the-eight-great-technologies>  
<https://www.gov.uk/government/news/business-secretary-announces-industrial-strategy-challenge-fund-investments>

<sup>21</sup> See <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+REPORT+A8-2017-0005+0+DOC+XML+V0//EN>

<sup>22</sup> [https://ec.europa.eu/research/pdf/publications/horizon30\\_dc\\_online.pdf](https://ec.europa.eu/research/pdf/publications/horizon30_dc_online.pdf)

## GERMANY

Germany's Industry 4.0 strategy is developing specific policy recommendations in smart manufacturing and cyber-physical systems. The German Research Center for Artificial Intelligence (DFKI) and its network of research centers and labs is at the forefront of this AI strategy and is funded by German and EU agencies as well as industrial partners.

### KEY CLUSTERS OF AI ACTIVITY IN GERMANY

- Well-connected and coordinated approach to AI R&D through the German Research Center for Artificial Intelligence (DFKI).
- DFKI living labs are supported by German universities and act as a bridge between students, researchers and industrial employers.
- The German AI start-up landscape is leading in the areas of customer support, sales and marketing, computer vision and image recognition applications.

"With the anticipated improvement in highway safety associated with AV's and the corresponding decrease in traffic accidents, the question will be... "Until when do we continue to allow the use of cars with human drivers on our highways?"

—David Blair  
Partner, Transportation Law,  
McCarthy Tétrault LLP

## FRANCE

In July 2017, France's government pledged investments of €50 billion in various industry and technology endeavours, including AI, and announced that the Minister of State for the Digital Sector would soon release a proposal for defining a national AI strategy.<sup>23</sup>

### KEY CLUSTERS OF AI ACTIVITY IN FRANCE

- Significant cluster of universities and grandes écoles with engineering or math focus, including ENS Paris-Saclay, support the AI ecosystem.
- AI start-ups are concentrated in the following sectors: AdTech, Legal Tech, Transportation, Insurance, Manufacturing/Logistics, Infrastructure, Healthcare and Retail.
- France has significant research and academic strengths, but analysts are questioning the competitiveness of France's data privacy and tax rules as well as the strength of domestic firms in AI-related industries (such as hardware, software, data services and cloud computing). President Macron has suggested liberalizing reforms to grow data-related industries in France.

<sup>23</sup> See <http://www.gouvernement.fr/en/edouard-philippe-s-general-policy-statement-key-points-at-a-glance>; <http://www.gouvernement.fr/en/franceia-the-national-artificial-intelligence-strategy-is-under-way>

## SWITZERLAND

- Home to a concentration of universities and multi-stakeholder research institutions active in AI and AI-related fields including École Polytechnique Fédérale de Lausanne (EPFL), the Dalle Molle Institute for Artificial Intelligence (IDSIA), ETH Zurich and the University of Zurich. Investments in AI research and development by large multinational technology companies as well as Swiss firms with an expertise in industrial robotics.
- Start-up ecosystem is historically dependent on foreign investors.

### SPOTLIGHT

#### AUTONOMOUS VEHICLES

In 2014, the Society of Automotive Engineers (“SAE”) International established a taxonomy with six levels of motor vehicle automation, from no automation to full automation.<sup>24</sup>

In September 2016, the U.S. Department of Transport incorporated these levels of automation in its Federal Automated Vehicles Policy. This policy includes a foundation and framework to ensure public safety while allowing autonomous vehicle (AV) use.<sup>25</sup> In November 2016, the state of Michigan passed four bills to create a framework for AV testing. Notably, the bills allow testing of driverless AVs without a steering wheel or pedals.<sup>26</sup> California introduced AV testing regulations in 2014 and is currently developing regulation for the testing and deployment of fully autonomous vehicles.<sup>27</sup>

In September 2017, the House of Representatives pass a bill to accelerate the rollout of self-driving technology. The *Safely Ensuring Lives Future Deployment and Research In Vehicle Evolution Act*, or “SELF DRIVE” Act, will establish a federal framework for regulating self-driving cars.<sup>28</sup>

In Canada, the Ministry of Transportation in Ontario recently launched a pilot to allow AV testing.<sup>29</sup> The new regulation came into force in January, 2016, under the *Highway Traffic Act* and also adopts the taxonomy established by the SAE. Ontario requires prior approval to test vehicles under the pilot project.

In June 2017, a German law allowing AV use came into force. The law permits drivers to take their eyes off the road but they must be able to regain control of the vehicle when required.<sup>30</sup> The law will be updated after two years to reflect technological advancements.



<sup>24</sup> [https://www.sae.org/misc/pdfs/automated\\_driving.pdf](https://www.sae.org/misc/pdfs/automated_driving.pdf)

<sup>25</sup> <https://www.nhtsa.gov/press-releases/us-dot-issues-federal-policy-safe-testing-and-deployment-automated-vehicles>

<sup>26</sup> <http://www.michigan.gov/snyder/0,4668,7-277-57577-318728--,00.html>

<sup>27</sup> <https://www.dmv.ca.gov/portal/dmv/detail/vr/autonomous/auto>

<sup>28</sup> <https://energycommerce.house.gov/selfdrive/>

<sup>29</sup> <http://www.mto.gov.on.ca/english/vehicles/automated-vehicles.shtml>

<sup>30</sup> <http://www.reuters.com/article/us-germany-autos-self-driving/germany-adopts-self-driving-vehicles-law-idUSKBN1881HY>

## Asia



### CHINA

The Chinese government recently announced its plan for China to become a global leader in AI by 2030 and to develop appropriate laws and regulations. The Chinese government is partnering with the private sector and key research universities to create a research network to develop AI capabilities.<sup>31</sup> China has implemented measures to maintain control of user data gathered by foreign firms, which will give domestic technology companies an edge in R&D efforts in China.<sup>32</sup>

#### KEY CLUSTERS OF AI ACTIVITY IN CHINA

- Beijing's Zhongguancun district is a hotspot of AI innovation. It is home to Baidu, Xiaomi and Lenovo. Prestigious companies and universities attract investment and innovation to this district.
- Chinese government plans to lay the legal groundwork for AI technology by 2030.
- China has been investing heavily in AI capabilities. From 2012 to 2016 Chinese AI firms received \$2.6 billion in funding.<sup>33</sup>
- Some estimate that China may surpass the US in terms of AI productivity in the next ten years.<sup>34</sup>

31 <http://www.scmp.com/tech/china-tech/article/2072692/chinas-first-deep-learning-lab-intensifies-challenge-us-artificial>

32 <https://www.economist.com/news/leaders/21725561-state-controlled-corporations-are-developing-powerful-artificial-intelligence-why-chinas-ai-push>

33 <https://www.economist.com/news/leaders/21725561-state-controlled-corporations-are-developing-powerful-artificial-intelligence-why-chinas-ai-push>

34 <https://www.economist.com/news/business/21725018-its-deep-pool-data-may-let-it-lead-artificial-intelligence-china-may-match-or-beat-america>

## SOUTH KOREA

In February 2017, the Ministry of Science, ICT and Future Planning (MSIP) released a plan to prepare South Korea for advancements in AI-enabled technologies.<sup>35</sup> The plan identifies policy goals relating to workforce preparedness, education and social welfare as well as a number of targeted measures to manage the development of AI in South Korea including: preventing monopolization of data by a single company; creating testing bed and deregulated zones for AI; converting public data owned by government into open format and ensuring its public disclosure (20 public organizations to begin in 2018 with all others following suit by 2025); designating agencies to process and transform private and personally-identifying data; and, reforming telecommunications regulations to open new bands for smart factories and health systems. These reforms include an overhaul of the country's *Framework Act on National Informatization* and the establishment of a *Charter of Ethics for AI* (by 2018) and protocols to guide developers and users.

"The second advantage for China is data, AI's most important ingredient... China's sheer size and diversity provide powerful fuel for this cycle. Just by going about their daily lives, the country's nearly 1.4 billion people generate more data than almost all other nations combined. Even in the case of a rare disease, there are enough examples to teach an algorithm how to recognise it... Young Chinese appear particularly keen on AI-powered services and relaxed about use of their data."

—The Economist. "China may match or beat America in AI"

### KEY CLUSTERS OF AI ACTIVITY IN SOUTH KOREA

- South Korea has been investing in reinforced learning through the MSIP since 2013.<sup>36</sup>
- Recently accelerated investment in AI and AI-related technologies with the development of a national AI strategy and the creation of AIRI (Artificial Intelligence Research Institute) in collaboration with key industry players.
- MSIP hopes to bolster start-up activity with a support fund for early-stage AI start-ups (KRW ₩30 billion in 2017) that will grow by KRW ₩100 billion every year.<sup>37</sup>
- Concentration of telecommunications, consumer electronics and automotive firms which have made a number of AI acquisitions.

<sup>35</sup> <http://english.msip.go.kr/english/msipContents/contentsView.do?catelId=msse44&artId=1335476>

<sup>36</sup> See, for example, ExoBrain.

<sup>37</sup> MSIP, Mid- to Long-Term Master Plan in Preparation for the Intelligent Information Society.

## SINGAPORE

The National Research Foundation of the Prime Minister's Office of Singapore recently announced an investment of up to \$150 million over 5 years in an initiative called AI.SG. AI.SG will bring together six of Singapore's most prestigious government-related players: the National Research Foundation (NRF), the recently founded Smart Nation and Digital Government Office, the Economic Development Board, the Infocomm and Media Development Authority, SGInnovate, and healthcare IT firm Integrated Health Information Systems (IHIS), to increase Singapore's AI capabilities.<sup>38</sup>

## JAPAN

In 2016, the Japanese government pledged ¥100 billion over 10 years to the development of AI technology in partnership with academic and industry participants, including the Riken Center for Advanced Integrated Intelligence Research.<sup>39</sup>

The Japanese health ministry recently pledged ¥350 million to AI to streamline drug development in 2017, with potential increases in subsequent years.<sup>40</sup>

## SPOTLIGHT

### AI & THE OIL, GAS AND MINERAL EXTRACTION SECTORS

There are many uses of AI in the Oil, Gas and Mineral Extraction businesses. AI systems are helping to decrease the variable costs of running a mine, increase site safety, and also have the potential to increase the productivity. For example: Investments and portfolio allocations – Many current roboadvisers are using AI to determine portfolio allocations and manage and optimize assets as they grow.

1. *Mineral deposits and oil & gas exploration* – resource companies are starting to use AI to increase the accuracy of their exploration activities. Traditional methods of predicting the location of mineral and hydrocarbon deposits are usually limited by the unpredictability of geoscience data.<sup>41</sup> AI algorithms can be used to partially overcome these limitations and increase the likelihood of successfully predicting mineral and hydrocarbon deposits
2. *Production automation* – one of the key areas where mines are becoming autonomous is in autonomous hauling trucks, which are already in use at mines around the world.<sup>42</sup> Another example includes autonomous drilling systems, which can be used to reduce manual labour from the drilling process.<sup>43</sup> Machine learning is also being used to warn operators of expected downtime hours in advance.<sup>44</sup>

38 <https://www.nrf.gov.sg/programmes/artificial-intelligence-r-d-programme>

39 <https://asia.nikkei.com/Tech-Science/Tech/Researchers-to-develop-Japanese-style-AI?page=1>

40 <https://asia.nikkei.com/Tech-Science/Tech/Japan-tapping-AI-to-revolutionize-drug-development>

41 Justin Granek, Application of Machine Learning Algorithms to Mineral Prospectivity Mapping, The University of British Columbia, December 2016 at pp. 70 – 77.

42 Canadian oil sands giant testing autonomous haul trucks, Mining.com, November 6, 2016; see also Mine of the Future, Rio Tinto.

43 BHP Billiton hits go on autonomous drills, itnews, June 20, 2016.

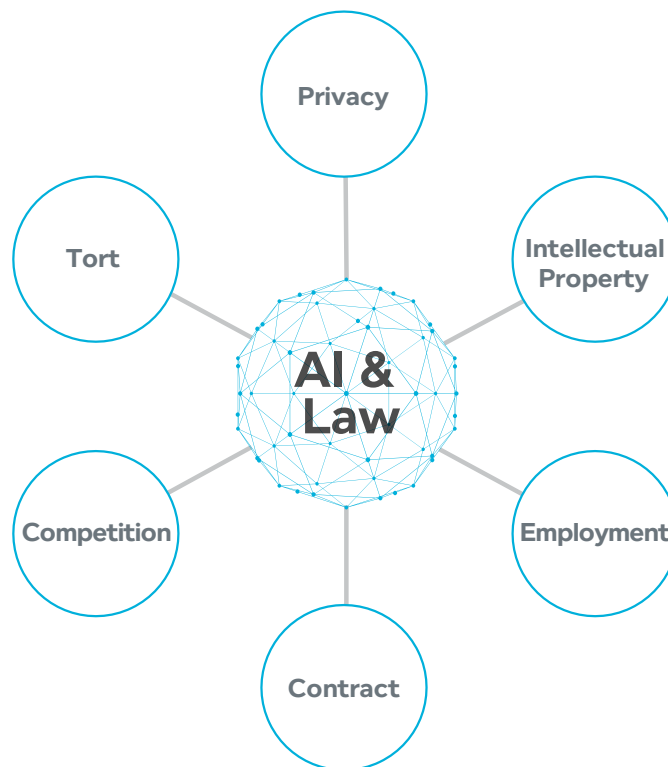
44 Machine learning enters mines, Mining Magazine, December 22, 2016.

## Part III: Legal Risks Associated with Deeper AI Integration

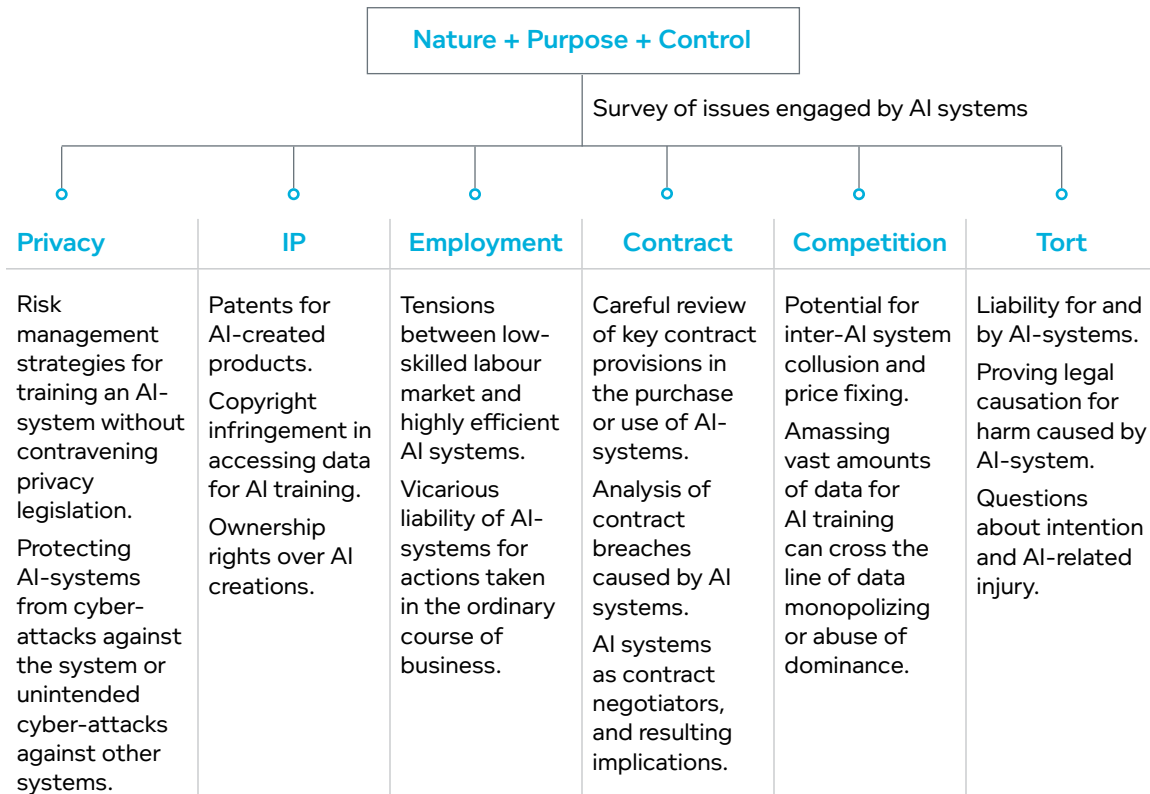
AI has many different applications and engages a range of legal issues from privacy to competition law. This section provides a more focused exploration of some of the specific legal issues that we have found our clients to be confronting, or that we expect them to confront, as AI integration intensifies and as systems become more autonomous and complex.

We have identified the following six areas of law as being the most likely to intersect with AI applications in the immediate to near term: privacy, intellectual property, employment, contract, competition and tort law. In each of the sections below, we raise some preliminary legal questions associated with AI integration, as the starting point for an eventual, more focused discussion about specific AI applications.

### Areas of the Law & AI



### SUMMARY OF SOME OF THE KEY ISSUES ARISING ACROSS AREAS OF LAW



## Privacy law

AI systems require vast amounts of data to be properly trained and to be more comprehensive, accurate and autonomous. Access to data, however, is subject to legal restrictions to protect privacy interests and ensure proper disclosure of data use. Issues of consent, data de-identification and internationalization of privacy norms and standards are all implicated, as well as considerations around copyright infringement for AI training based on human-created works.

Businesses should think practically about how data is collected: from where it is being collected; the purpose and intended use of the data; whether consent is required or properly obtained; and, how data is stored and accessed, and by whom.<sup>45</sup> Some specific considerations include:

- What are the data implications associated with the *Canadian Anti-Spam Legislation* (CASL), especially for electronic aggregation of email addresses and other data?

<sup>45</sup> McCarthy Tetrault (2017), "Doing Business in Canada", [http://www.mccarthy.ca/news\\_release\\_detail.aspx?id=7353](http://www.mccarthy.ca/news_release_detail.aspx?id=7353)



- Is the intended use of data appropriately disclosed and compliant with the *Personal Information Protection and Electronic Documents Act* (PIPEDA)?
- Where is data being stored? Are there sufficient firewalls in place to protect data once it is collected? This is especially important for cloud-based data storage systems.
- Cloud-based data storage systems also implicate jurisdictional issues in case of a data breach or dispute over data use. Does your company's consent information include a jurisdictional clause, if relevant?
- Is there a sufficiently comprehensive cybersecurity plan in place to manage risks of and responses to data breaches?
- Who owns the data shared between an AI developer and user?
- Is the AI system programmed to autonomously mine for and share data? If so, is the system at risk of breaching privacy legislation and regulation?

"Companies need to be aware of the source of data, especially when acquiring data from other companies. When acquiring data, a company will need to carefully manage the process of merging with existing data, so as not to contaminate existing data sets. Developers and data scientists should be speaking regularly with the legal group, although in our experience, that seems to rarely happen and each group believes that the other group is on top of the issues."

—Kirsten Thompson  
Partner & Co-Lead of the  
Cybersecurity, Privacy, &  
Data Management Group,  
McCarthy Tétrault LLP

## MCCARTHY TÉTRAULT'S CLIENT-FOCUSED SOLUTIONS:

### Digital Privacy Act Compliance Diagnostic

McCarthy Tétrault will work with you to ensure compliance with privacy legislation and develop a disciplined risk-based protocol in this changing landscape.

For more information, please contact Kirsten Thompson ([kthompson@mccarthy.ca](mailto:kthompson@mccarthy.ca)) or Charles Morgan ([cmorgan@mccarthy.ca](mailto:cmorgan@mccarthy.ca))

### Incident Response & Readiness Plan Review

McCarthy Tétrault will work with you to take the proactive steps towards a data breach response and readiness plan that protects your customers, employees and management teams from financial damages and irreparable reputational damage caused by a data incident.

For more information, please contact Kirsten Thompson ([kthompson@mccarthy.ca](mailto:kthompson@mccarthy.ca)) or Charles Morgan ([cmorgan@mccarthy.ca](mailto:cmorgan@mccarthy.ca))

## Intellectual property law

While patents, copyrights, trademarks, industrial designs, and domain names are the common types of intellectual property rights (IP) companies focus on, the common law also provides different forms of IP protection. For example, the common law protects against the misappropriation of trade secrets, personality rights, privacy rights, and passing off, among other things. AI systems are both users and creators of IP. As a result, they raise some unique questions from an IP perspective. For instance:

- While algorithms per se are not patentable, computer program products or methods that implement a tangible solution, or produce a discernable effect or change, generally are patentable.<sup>46</sup> Under what circumstances can and should an AI system or methods used or created by an AI system be patented?
- In what circumstances can trade secrets (common law rights that provide protection over secret business information), copyright, and other types of IP be relied upon to protect AI creations and developments?<sup>47</sup>

### SPOTLIGHT

#### AI & PRIVACY REGULATIONS

AI system development requires large data sets so that AI programs can “learn” to recognize patterns and predict outcomes. When AI is developed for use in industries such as healthcare, the data often contains sensitive information such as patients’ medical records. Privacy and data protection laws therefore have a large impact on the development and implementation of AI technology. Governments need to balance promoting innovation with protecting sensitive data.

While privacy legislation exists in many jurisdictions, it may be rendered ineffective by fast-changing AI developments. One example of a regulatory change in response to the anticipated impacts of AI technology in peoples’ lives is the *EU General Data Protection Regulation*, which comes into force in 2018. It includes rights not to be subject to automated decisions and to be informed of a decision-making algorithm’s inputs and basic logic but not reasons for specific decisions. The UK is incorporating the principles of the *EU General Data Protection Regulation* in its new *Data Protection Bill*, which will replace the *UK Data Protection Act 1988*.

There is significant debate about the scope of the new regulations which some commentators warn may stifle the development of AI-enabled systems.<sup>47</sup> The more rigid requirements for individuals to grant specific consent for specific uses of their data may create issues for AI-enabled systems, which may not be able to identify at the outset whether a particular piece of information will be used in an algorithmic decision (such as targeted advertising). Many early-stage firms may choose to operate in a grey area rather than undertake the compliance burden of determining how much of their data is governed by the new regulations as well as how they are entitled to use it as they wait for court decisions or regulatory amendments to clarify how the new law will operate in practice.

<sup>46</sup> McCarthy Tetrault (2017), “Doing Business in Canada”, [http://www.mccarthy.ca/news\\_release\\_detail.aspx?id=7353](http://www.mccarthy.ca/news_release_detail.aspx?id=7353).

<sup>47</sup> <https://www.wired.com/2016/07/artificial-intelligence-setting-internet-huge-clash-europe/>  
<https://www.cpomagazine.com/2017/08/17/will-data-protection-laws-kill-artificial-intelligence/>

- The *Copyright Act* provides a secondary liability remedy against those who “enable” digital infringements, as well as new exceptions to copyright protection, including in respect of “technological processes”.<sup>48</sup> What are the risks of copyright infringement when published data are accessed and used to train AI systems? What internal policies and procedures are advisable to protect against inadvertent copyright infringement for companies building or training AI systems?
- Who owns an invention, design, work, or other type of IP created or developed by an AI system? To the extent possible, in its contracts with customers, suppliers, and developers, businesses should clearly set out the ownership structure for such creations and works.

“We need to look at Canadian IP legislation through the lens of artificial intelligence. Are our statutes appropriately protective while being sufficiently permissive to incentivize AI-related innovation? Canada has momentum in this increasingly evolving sector, and we, at McCarthy Tétrault, are taking the lead in thinking through these issues in a multi-dimensional way”

—Judith McKay  
Chief Client and Innovation  
Officer, McCarthy Tétrault LLP

## MCCARTHY TÉTRAULT’S CLIENT-FOCUSED SOLUTIONS:

### Intellectual Property Strategy Review

The Intellectual Property Strategy Review provides a strategic assessment of your existing IP portfolio. More importantly, it delivers recommendations for a more holistic approach to align protection of IP assets with your business goals.

For more information, please contact Lisa Melanson ([lmelanson@mccarthy.ca](mailto:lmelanson@mccarthy.ca)), Steve Mason ([smason@mccarthy.ca](mailto:smason@mccarthy.ca)) or Judith McKay ([jmckay@mccarthy.ca](mailto:jmckay@mccarthy.ca))

### HR Compliance & Risk Management Diagnostic

Our HR Compliance Diagnostic is a pro-active tool that can help your company assess and achieve compliance with employment regulations, to reduce risk and bring comfort to directors, officers, in-house counsel and HR professionals.

For more information, please contact Tim Lawson ([timlawson@mccarthy.ca](mailto:timlawson@mccarthy.ca)) or Kate McNeill-Keller ([kmcneill@mccarthy.ca](mailto:kmcneill@mccarthy.ca))

<sup>48</sup> McCarthy Tétrault (2017), “Doing Business in Canada”, [http://www.mccarthy.ca/news\\_release\\_detail.aspx?id=7353](http://www.mccarthy.ca/news_release_detail.aspx?id=7353).

## Employment and labour law

Employment in Canada is a heavily regulated area governed by a broad array of federal or provincial legislation and common law principles.<sup>49</sup> Greater AI integration has deep implications from an employment law perspective. On the one hand, there are questions of liability, whether an artificial agent can constitute a type of employee, thus exposing its principal to vicarious liability for harms caused in the course of operation. On the other hand, there are many human resource issues regarding the anticipated mass reduction of human staff presently tasked in roles with highly routinized work.

“We are closely following developments in AI as it disrupts employment, informs bargaining positions, and potentially changes the liability landscape.”

—Donovan Plomp  
Partner,  
Labour & Employment,  
McCarthy Tétrault LLP

Some of the issues arising in this context include:

- What, if any, are the obligations for employers in assisting their staff to retrain and find new roles?
- In order to avoid a major HR disruption, can lower-skilled workers be internally retrained to appropriately train, interact with and manipulate AI? Is this desirable and what are the associated legal implications of this strategy?
- Where an AI system is deployed in the performance of an HR function, such as

### SPOTLIGHT

#### AI & THE RETAIL AND CONSUMER FACING SECTOR

Retailers and consumer goods companies are using AI in many ways including:

1. *Marketing analytics* – AI is being used to identify dynamically-changing market segments to inform a company’s marketing activities.<sup>50</sup>
2. *Chatbots* – Chatbots are being used as frontline customer service representatives. The chatbots are programmed using natural language processing to understand, respond to or triage a customer’s question. The bot then formulates a response or processes a customers’ request.<sup>51</sup>
3. *Targeted product recommendations* – AI systems are being used to provide smarter recommendations to customers, based on specific personal preferences but also ancillary information such as location.<sup>52</sup>

49 McCarthy Tétrault (2017), “Doing Business in Canada”, [http://www.mccarthy.ca/news\\_release\\_detail.aspx?id=7353](http://www.mccarthy.ca/news_release_detail.aspx?id=7353).

50 See for e.x. Boomtrain, A Zeta Global Company.

51 AI-Powered Chatbots to Deliver Better Banking Experiences, Chatbots Magazine, March 3, 2017

52 <https://www.techemergence.com/artificial-intelligence-retail/>

screening possible candidates, the employer should be aware of issues around built-in bias. A level of due diligence in deploying a properly tested system is likely prudent to avoid unintentional hiring bias. What are the human rights law implications of relying on AI systems for any level of candidate review and recruitment?

- In what circumstances can an AI system be considered a legal agent of its principal?

## Contract law

AI and contract law intersect in at least two ways: First, what specific provisions are required, if any, in the use, purchase, licensing, etc. of AI technology? For instance, contracting for the creation, purchase or use of an AI system may increasingly include clauses that are specific to the potential of breach caused by an AI system. Careful and specific attention should be paid to contracts for AI systems to ensure they properly cover all issues including the right warranty, insurance and indemnity provisions. Second, there is the emerging issue of the AI negotiator or agent. Increasingly there is the potential for AI systems to interact with each to negotiate certain contracts to finality.

- Are there express or implied warranties that can preclude or limit recovery from liability for a breach caused by an AI system?
- Are there unique insurance and indemnity requirements to protect parties from AI related harm?
- What are the circumstances in which an AI system can enter into a legally binding contract on behalf of its principal?
- Is human oversight required for every contract negotiated by an AI system? Assuming there is no human oversight, what are the issues, if any, about the justiciability of the contract?

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### MCCARTHY TÉTRAULT'S CLIENT-FOCUSED SOLUTION:

#### Contract Management Solution

Our Contract Management Solution is an innovative, integrated service delivery model designed to manage high volumes of low- and medium-complexity commercial contracts. Leveraging customized technology tools, a global legal process outsourcing provider, and a model tested and enhanced by real-world application with our clients, this solution is designed to take on the burden of reviewing, negotiating and drafting commercial agreements while maintaining transparency, quality control and consistency in the business's contractual relationships, enabling in-house legal teams to be redeployed to focus on matters more strategic to the business.

For more information, please contact Matthew Flynn ([maflyn@mcCarthy.ca](mailto:maflyn@mcCarthy.ca)) or Judith McKay ([jmckay@mcCarthy.ca](mailto:jmckay@mcCarthy.ca))



## WHEN BOTS BREACH CONTRACTS

Two US cases – *eBay, Inc. v. Bidder's Edge Inc.* and *Register.com v. Verio, Inc.* – regarding the unauthorized “scraping” of data, address the issue of what happens when a bot breaches the terms of a contract. In these cases, the courts held that the use of bots to repeatedly access websites for data likely constituted trespass to chattels. In both cases, the courts found that unauthorized access was a drain on the plaintiffs’ system resources causing economic injury. Part of the issue was attribution of liability – in other words, the extent to which there was human knowledge of the unauthorized activity.<sup>53</sup>

## Competition law

The federal Competition Act provides for criminal and civil sanctions against persons involved in agreements with competitors that fix prices, restrict supply or allocate customers or markets, or that are involved in bid-rigging, deceptive telemarketing, or wilful or reckless misleading advertising offences, or that engage in abuse of a dominant market position.

Anti-competitive behaviour from the integration of AI systems could conceivably arise in the following contexts, among others:

- Allegations of a data monopoly (in amassing vast amounts of data for AI training) or abuse of dominance if data is too concentrated.
- If AI is granted sales/pricing decisions, the possible risk that one system colludes with another AI, exposing the companies to potential price fixing liability.
- Personalized pricing for internet-based sales based on individualized targeted data collection. At what point does this practice cross the line and become anti-competitive behaviour?
- Price monitoring systems can be used by manufacturers to pressure retailers to comply with their recommended price, thereby limiting the incentive of retailers to deviate from the manufacturer’s recommendation. At what point does this behaviour risk non-compliance with price-fixing or price maintenance requirements?

“Being aware of the risks and being prepared with risk reduction strategies arising from AI integration can avoid non-compliance with the Competition Act, and the harm to reputation associated with actual or perceived non-compliance.”

—Don Houston  
Competition Law Partner,  
McCarthy Tétrault LLP

<sup>53</sup> See Samir Chopra and Laurence F. White, “A Legal Theory for Autonomous Artificial Agents”. The University of Michigan Press, 2011, pp. 67-68.

## Tort law and class actions

Intentional or negligent harm caused in the operation of an AI-system fundamentally engages questions of liability, agency and causation. Some of the potential AI-related tort law implications include:

- Given the high accuracy rates of many AI systems, should there be a different standard of care applicable to AI systems versus humans?
- Does the training method of the AI (supervised learning vs. unsupervised learning) have any consequence on the liability analysis?
- Can an AI system form the requisite elements of any tort, including intention?
- If the AI system inexplicably destroys data, can it attract liability for economic loss to the injured party, and who is primarily responsible for that course of action?
- Is the AI system mining for data in a manner consistent with trespass to property?
- Can an AI system (e.g. chatbot) be liable (and its principal vicariously liable) for a misrepresentation in the course of its interaction with customers?
- Is the AI system operating in an unlawfully annoying, prejudicial or disruptive manner such that it interferes with the reasonable enjoyment of land (e.g. a drone)? Who is liable?
- Should a strict liability system with mandatory insurance be in place? Or joint and several liability among the various players?

“The broad reach of many AI applications risks increasing the number of class actions arising from torts caused by these systems. For instance, I can imagine a scenario where one chatbot replaces several humans and interacts with thousands of customers before someone notices that the chatbot is providing false information. This is just one example.”

—Jill Yates  
Partner and Chair of the  
National Class Actions Group,  
McCarthy Tétrault LLP

### MCCARTHY TÉTRAULT’S CLIENT-FOCUSED SOLUTION:

#### Product Compliance Risk Management

Regulations related to consumer products and consumer protection change quickly, and companies need to proactively keep up to date as part of a proactive risk management strategy. Our Product Compliance Risk Management solution is a toolkit that helps your business ensure new and existing products are compliant across Canada.

For more information, please contact Lara Nathans ([lnathans@mccarthy.ca](mailto:lnathans@mccarthy.ca)) or Julie-Martine Loranger ([jmloranger@mccarthy.ca](mailto:jmloranger@mccarthy.ca)).

As with the evolution of the law in general, these issues will be discussed and decided overtime. For businesses, the practical and immediate tort considerations are at least three-fold. **First**, conduct an analysis of some of the more sophisticated AI systems in use to review areas of potential tort liability. **Second**, in some cases, conduct a detailed and well-documented understanding of the parameters of the AI's intended use, the manner in which the use may deviate from this intention, and the manner in which the system can be decommissioned when it operates beyond the intended scope. **Third**, prepare proper disclaimers and disclosures for third parties that will use the AI system. Failure to adequately prepare for the implementation of AI could lead to actions in negligence, misrepresentation, privacy and other related legal causes of action. On at least one theory, product liability regimes may be engaged by products using AI. Currently, there is no suggestion that any potential cause of action would be excluded from the class action framework.

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## SPOTLIGHT

### AI & THE LIFE SCIENCES AND PHARMACEUTICAL SECTORS

There are numerous use cases for AI in the life sciences and pharmaceutical sectors that may increase the effectiveness of the provision of healthcare services.

1. Finding new drugs or new uses for existing drugs: AI is being used in research to find new drugs or new uses for already existing drugs. For example, AI and deep learning technologies are being used to discover bioactive molecules for use in medicine. This can be done more accurately than traditional methods and usually at a fraction of the cost. In addition to discovering new molecules, machine learning can be used to find new uses for existing molecules. Moreover, AI can be used to personalize drug treatments which could lead to a transformative shift in how medicine introduces treatment solutions on a patent by patent basis.
2. Enhance the regulatory approval process: AI is being used in the regulatory approval process for new drugs. For example, AI-guided simulated experiments are being deployed to identify appropriate biomarkers and design an effective combination of therapies. In so doing, the technology is being used to identify clinical trials that are likely to be successful. This increases the probability that initial laboratory test results will be successfully, therefore increasing the rate at which pharmaceutical companies can enter clinical trials. This not only has obvious financial benefits for pharmaceutical and life sciences companies, but also has the potential to expedite the approval and release of new drugs which can have positive health benefits for those who need access to those drugs.



## McCarthy Tétrault's AI Team Can Help

Our global network of entrepreneurs, providers, and vendor managers gives us unique expertise on AI best practices. Let us make connections for your organization.

### Integrate AI into your business

- End to end management of the contractual process. We construct and negotiate agreements to ensure compliance and liability protection, with a special understanding given to transformative technologies.
- Due Diligence & Compliance review of any AI instance to ensure you minimize legal risk and truly understand what you are buying.
- When a crisis occurs, we draw from a team of leading experts who have responded to some of the highest profile data incidents in North America.
- Our preeminent Arbitration & Litigation practices mean we are uniquely positioned to enforce your rights and handle dispute resolution .

### Why McCarthy Tétrault

Businesses need support from counsel who can marry legislative compliance and the application of industry best practices in various jurisdictions with a practice knowledge of commercial and technical outcomes – all in a manner that will help a client preserve privilege.

Protection of business information and data, dispute resolution, and strategic management of the contracting process are all significant aspects of our practice. Mitigating risk for your business is always our first priority and we have helped clients manage the entire lifecycle of data, including providing guidance to companies looking to implement complex machine learning and big data solutions for their organizations.

We are your strategic partner for transformative technologies and disruptive shifts in your industry.

Keep in touch for our upcoming White Papers on:

**Big Data**

Fall 2017

**Managing Privacy Litigation Risk**

Spring 2018



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