A Look at Artificial Intelligence in Europe

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In February 2017, the European Parliament issued a resolution "with recommendations to the Commission on Civil Law Rules on Robotics" (PDF - available in French only) (the "Resolution"). This relatively unprecedented initiative is intended to define the guidelines that will guide the European Commission in establishing European rules on robotics. In more basic terms, it expresses a clear desire to encourage the creation of standards that will preserve a fair balance between the need to fully explore the economic potential of artificial intelligence and the need for a high level of security and the protection of privacy rights.

In fact, this Resolution is the echo of a growing global awareness of both the potential and the risks of artificial intelligence, which is also felt in Canada, where significant expertise is being developed in this area (particularly in Montréal). Canadian observers must therefore look beyond their own borders to prepare for the future. Such is the purpose of this report, which focuses on the European approach. As such, we will present the highlights of this initiative, by reviewing the general and ethical issues (1), challenges relating to intellectual property and privacy rights (2), specific rules in robotics (3), and the liability system (4).

1. General and Ethical Principles
First of all, the European Parliament underscores that it is important for the European Union to adopt a position on the issues raised by artificial intelligence in order to avoid being later subjected to rules imposed by other countries. At the forefront are ideas about harmonizing European positions, as well as cross-border rules and rules concerning investments in innovation. Recommendations include defining a new legal framework, along with the creation of a "Robots Charter" and ethics committees, all under the aegis of a new European agency. These committees would be designed to define the rules regarding (i) the robotics engineers' behaviour, (ii) the researchers' ethics; and (iii) licenses for creators and users.

A series of definitions and classifications for the different categories of "intelligent robots" is recommended, as is the setting up of a general registration system based on robot types throughout the European Union.

The Resolution also highlights that "the development of robot technology should focus on complementing human capabilities and not on replacing them." This is why such technology must be developed with a view towards ensuring that humans have control of intelligent machines at all times. The use of "black boxes" is therefore recommended. These devices would, indeed, record "the data on every operation realized by the machine, including the logic that would have led to the decisions."

2. Intellectual Property and Privacy Rights
The European Parliament also considers that it is necessary to review the legal framework for the protection of personal information, due to new types of "communication of applications and devices interacting with one another and without human intervention". Certain types of robots are more specifically targeted, because they "represent a significant threat to confidentiality" in their ability "to extract and send personal sensitive data." Therefore, a balance must be struck between the free flow of information, which is indispensable for technological development, and a high level of security and protection of privacy rights.

The new rules applicable to robotics should therefore be consistent "with the general rule on the protection of data and with the principles of necessity and proportionality." It should also be noted that European law and regulations respecting the protection of personal data and the protection of privacy rights are fully applicable and should be complied with. Therefore, "transparent control mechanisms and appropriate remedies" must be provided for the application of rules with respect to data protection.

The European Parliament also provides for the liability of creators of robotics and artificial intelligence, while highlighting the importance of high levels of security for internal data systems and data flows.

Finally, the issue of interoperability between robots is considered "crucial" with respect to future competition, which is why the European Commission is encouraged to pursue its efforts in promoting the international harmonization of technical standards. Lawful reverse engineering must be required, as well as open rules, to ensure that robots can communicate with one another. In this respect, it is recommended that special technical committees be created, such as the International Standards Organization's ISO/TC 299 Robotics Committee.

3. Specific Rules for Certain Types of Robots
The Resolution specifically addresses the subject of robotics in automated transport and their ensuing legal and societal consequences. Generalized rules for the automotive sector must be created, while encouraging cross-border development for self-driving vehicles within an international framework. Keeping in mind that the transition towards automated vehicles will have significant repercussions on a wide range of areas (including liability, road safety, personal information and employment), "substantial investments" should be made in roads, energy, as well as ICT infrastructure.

Similarly, emphasis is placed on the importance of creating a legal framework for drones within the European Union. The European Parliament invites the Commission to set up security regulations, as proposed in a previous resolution specifically for the safe use of drones.

The use of robots in the field of healthcare is also addressed, both with regard to personal care and medical robots. The European Parliament stresses that human contact is essential, underscoring the need to avoid the dehumanization of personal care. As for medical robots, the Resolution recommends that medical personnel be given access to appropriate training and preparation, in compliance with "the principle of the supervised autonomy of robots." Thus, "both the initial planning of treatment and the ultimate decision will always rest with the surgeon."

Ethics committees should be created with respect to the repair and enhancement of the human body. The European Parliament draws attention to the risks of hacking or of technological failure, which could endanger human health or even human life. Finally, the Resolution highlights "the importance of guaranteeing equal access for all people to such technological innovations, tools and interventions."

4. Liability
The Parliament also addresses the issue of strict liability, requesting that the European Commission submit a new legal instrument within 10 to 15 years. This legal instrument's main guidelines should provide the following: under no circumstances should a limit apply to the type or extent of damages to be compensated, nor should it limit "the form of compensation, on the sole grounds that damage is caused by a non-human agent." The European Commission is given the option of a strict liability (fault, damage and causal link) or a risk management approach (focused on the person who is able to minimize risks and handle any negative impacts).

In addition, the principle of proportionality must be applied, based on the actual instructions given to the robot or its degree of
autonomy. This means that the longer a robot's training and the higher its degree of autonomy, the more the liability rests with its creator. Finally, as things stand today, the liability must lie with a human.

Essentially, the Parliament is proposing two other approaches: a compulsory insurance regime that would take into account the liability of all actors in the production chain; or, eventually, the creation of a specific legal status for robots, where they would own property and would make good on any damage caused to a third party.

Conclusion

This Resolution therefore represents an important step in the development of artificial intelligence in Europe, but above all it is a wake-up call for the business community in Canada which must not be ignored. In fact, there is every reason to believe that Canadian economic growth over the next few years will depend on artificial intelligence and innovation in robotics. With this in mind, the greatest advantage will be gained by staying ahead of the curve, which will mean taking full advantage of the potential of these new tools as well as mitigating the risks involved. In the words of Antoine de Saint-Exupery, "Your task is not to foresee the future, but to enable it."

Co-Author: Alice Hourquebie, legal intern in the law firm of Fasken Martineau Dumoulin (Montréal).