# Introduction

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The first two issues of *Enjeux numériques / Digital issues* focused on artificial intelligence (AI) and big data. These topics reappear in this new issue devoted to the impact of digital technology on the legal professions at a time when big data and advanced algorithms are two major factors in the pursuit of the digital transformation of our society and of jobs.[1] This special issue seeks to better understand the social, economic and societal issues in this transformation of the legal professions, in particular the regulatory or ethical issues and the stakes of being economically competitive and attractive. Since the world is undergoing this transformation, we would like to present a panorama of European studies on this topic.

When adopting a historical viewpoint, we notice that artificial intelligence and data-processing entered our lives through banking services, mail order sales, energy distribution and telecommunications. Marketing has turned these activities into a mass market. Whereas a poor recommendation for a purchase affects our lives very little, an error (whether a false positive or negative) in the field of the law might bear heavy consequences. Were such an error to be used to impose a fine or other penalty, AI applications would have effects of a quite different magnitude. The law, along with its professionals, their jobs and daily practices, has come under question. Legal professionals, because their jobs are intellectual and highly skilled, thought they were sheltered from competing with machines; but they are now facing a growing number of AI applications.

From a technical viewpoint, very recent trends associate the wide diffusion of efficient algorithms with adequate computational capacities for processing masses of data in a reasonable length of time. Machines that analyze and understand texts and that massively process unstructured data are making it easier to search for precedents in case law, statistically analyze court decisions and even predict (to a degree) the outcome of lawsuits.

What characterizes the current situation is the coming together of quite different factors. To cope with the ongoing globalization of their activities, firms are taking account of legal factors when choosing business locations, whence a stronger competition between legal systems. At stake for the law, national as well as European, is how to settle disputes (especially in commerce and intellectual property rights) more effectively and efficiently while producing decisions of a good quality. Guy Canivet, chairman of the HCJP (Haut Comité Juridique de la Place de Paris), has described the "*competitiveness of legal norms*" as the "*judicial system's aptitude to attract business […] If we want to improve the competitiveness of norms, it is necessary to create a dynamic relation between those who make norms and those who receive them.*"[2] The production of lawmaking can, therefore, be examined as in Laure de La Raudière's article.

Legal professionals were traditionally divided intoi the two families described by Jean-Louis Halpérin: the persons who drafted writs and the pleaders who orally intervened in court. The structure of these professions, despite the grouping of some of them during the 20th century, has not much evolved over the past two centuries, if for no other reason than that they are subject to regulations.

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[1] This article has been translated from French by Noal Mellott (Omaha Beach, France).
[2] On 16 November 2017 during the *Grenelle du droit* meeting organized by AFJE and Cercle Montesquieu.

How will digital technology affect the legal professions? In his panorama of legaltechs, Olivier Chaduteau has pointed out that "*a legaltech performs one, two or three of the following actions: sharing information, delivering services and assisting decision-making. Furthermore, the technology being used will either enhance the work done by human beings or replace it.*" Lawyers, notaries, bailiffs, judges… can be assisted in the making of decisions or recommendations pursuant to their duties. Floran Vadillo has called for changing criminal investigation techniques, since data collection is the essence of an investigation.

If lawyers' offices can now use algorithms to facilitate, back, improve and, if need be, replace tasks, this will have an impact on lawyers' careers, especially at the start. So, how to adapt education in the law? For the first time in France, in the autumn of 2017, a university course on the digital transformation of the law and legaltechs has been introduced (at the University of Paris 2 Panthéon-Assas).

New specialized platforms that promise, for example, to provide assistance with the formalities for creating a company or obtaining arbitration to settle disputes of all sorts are an addition to — or are in competition with — the services performed by established legal professions; or else they provide new services. Platforms for choosing a lawyer as a function of the litigation opens a new channel for contacts on a two-sided market. This pushes even more individual professionals toward group practices (companies or platforms whose members are specialists in such and such a field).

The requirement to be economically attractive and competitive induces legal professionals to improve their performance with respect to deadlines, quality, predictability and costs. Among the "products" proposed by startups are advice about the chances of a lawsuit being successful and the probability of the corresponding costs and potential gains. Two appellate courts in France have tested such a tool for assisting decision-making by judges. Since all court decisions are to be placed in a set of open (public) data, as foreseen under the Digital Republic Act, searches will be made for similar cases so as to calculate a probability about the ruling that will be made on a new case — under condition that the determining factors have been accurately identified, that the database is big enough and that the data have been correctly "scrubbed" for making relevant correlations.

The use of these applications also leads to changes in legal professionals' business models. Invoicing based on the hours worked, a current practice of lawyers, is no longer applicable when a machine makes a recommendation in a much shorter time than an intervention by a lawyer (who, of course, has invested in digital technology and skills).

Open data, artificial intelligence and algorithms are subjects that hold promises of: "predictive justice", search engines for finding court decisions, and specialized commercial platforms for mass processing lawsuits. As blockchains spread, it will eventually be possible to automatically draft certain types of contracts and execute them (smart contracts). The coming together of know-how and techniques is literally opening new prospects that disrupt current practices. These subjects are breaking news; their many promises, still uncertain. Realizations will probably lead to calls for new regulations.

The first among the many questions cropping up is quality. Will a decision made by a supreme jurisdiction, which normatively sets the principles for lower courts, be given the same weight in a database as decisions by courts of first instance? How transparent will platforms be when processing data or applying algorithms? Will they detect and identify the jurisdiction that is likely to be more favorable to the litigant? The legaltech Predictice refuses, as Louis Larret-Chahine has reported, to use algorithms for penal cases.

It is absolutely necessary to adopt digital solutions such as the ones mentioned in a recent report[3] or in the Chancellery's plans for a reform. Will they help speed up settlements in court? The solutions proposed must be of the quality expected by litigants and legal professionals, in terms of the decision's argumentation, motivation and predictability.

Data are a raw material to be processed. The effectiveness of open public data is, therefore, a necessity for digital firms in the legal field. Some authors have suggested or argued that providing potential litigants with information about the probable outcome of their case might lead them to not file an action. As a result, the data collected for the database would eventually shrink. Might the database not then become a (large) number of individual cases that would not sustain the pertinence of drawing conclusions from a mass of data? What new equilibrium will society reach?

The application of the law's major principles, as Guy Canivet has recalled, raises questions about techniques and regulations. Who will address these questions? Florence G'Sell calls for a multidisciplinary approach. Statisticians, data scientists, data engineers and legal professionals will have to be able to understand each other and talk together for quality tools at the service of everyone to be designed, and for biases to be detected and limited.

Between this technology's promises and their accomplishment, there will be differences, pleasant surprises and, too, disappointments. The questions arising are fascinating; and the challenges before us, daunting.

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[3] INSTITUT MONTAIGNE (2017) *Justice: Faites entrer le numérique* (Paris: Institut Montaigne), 104p. Available via: https://www.institutmontaigne.org/ressources/pdfs/publications/justice-faites-entrer-le-numerique-rapport.pdf.