



From Court Automation to e-Justice and Beyond in Europe

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ABSTRACT

This article addresses several impossible missions. The first is to track milestones and trends in the development and implementation of information and communication technology (ICT) in European judiciaries over the past twenty-five years. The second is to summarize some lessons learned in the past quarter century and outline possible future trends, with particular reference to artificial intelligence, in the European judiciaries. The development of AI is unstoppable, however courts and policy makers should not be too infatuated by AI. They should always be mindful of the ongoing functional needs of courts and courts' users are and to what extent AI can be harnessed to support those. There are areas of intervention in the administration of justice that can still benefit from investments in "traditional" ICT applications.

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With this article I face two missions impossible. The first is to track milestones and trends in the development and implementation of information and communication technology (ICT) in European judiciaries over the past twenty-five years. It will necessarily be an overview with a brutal selection of issues. The second will be to summarize some of the lessons learned in that quarter century and outline possible future trends, with particular reference to Europe.¹

In the last twenty-five years, European governments and the European Commission have invested considerable effort and resources into developing ICT infrastructures and applications for the judiciary. The main investments can be summarised in five broad areas: 1) case law, 2) case processing (i.e. case management, e-filing, online dispute resolutions, etc.), 3) remote access to courts via audio and video, 4) data analytics (e.g. data warehouse, data lake, performance measurement etc.), and 5) interoperability and, in more detail, interoperability across countries.²

Nowadays, much emphasis is being put on investment in blockchain technology, machine learning, artificial intelligence (AI), and “predictive justice”. These buzzwords emerge constantly in workshops, conferences, and work plans, but, as far as I know, they are, at best, still in the planning or research stages with no significant applications yet up and running in the European courts.

In this regard, Estonia provides a humerous example with its “AI robot judge”. Estonia is certainly an interesting and forefront country as far the use of ICT is concerned. In March 2019 an article in the magazine *Wired* reported that the Estonian Ministry of Justice was working on a project that would make fully automatic small claims processing utilizing AI.³ Since then this example has frequently been cited and continues to be hailed as one of the most advanced AI projects in the European justice systems. This is simply fake news. On 16 February 2022, the Ministry of justice of Estonia published the following statement on its web site:

“As there have been a lot of questions relating the topic of AI Judge, we have to explain that the article about Estonian project of designing a “Robot/Judge” in *Wired* from 25th of March 2019, is misleading. There hasn’t been that kind of project or even an ambition in Estonian public sector. Estonian Ministry of Justice does not develop AI robot judge for small claims procedure nor general court procedures to replace the human judge. We are still searching for ICT means to make court’s workload, including administrative burden more bearable”.⁴

1 I would like to express my gratitude to Markus Zimmer for his comments, suggestions and editing of this work. Thanks Markus.

2 The European literature on ICT in the judiciary is massive, and it can not be fully referenced here. Carnevali 2009, 2019; CEPEJ 2016, 2017, 2019, 2020a; Cerrillo and Fabra 2009; Contini 2000, 2001, Contini and Cordella 2015; Contini and Lanzara 2009; Cordella and Contini 2020; Council of the European Union 2019a, 2019b, 2023; Cusatellia and Giacalone 2014; European Union Commission 2020a, 2020b, 2021, 2022, 2023; Fabri 2001, 2004, 2008, 2009a, 2009b, 2012; Fabri and Contini 2001; Fabri e Contini 2003; HM Courts & Tribunals Service 2016; OECD 2016; Plotnikoff, Woolfson and Lyons 2001; Kujanen and Sarvillina 2001; Reiling 2009; Kallinikos 2009; Velicogna 2007, 2009.

3 <https://www.wired.com/story/can-ai-be-fair-judge-court-estonia-thinks-so/> last visited April 2024.

4 <https://www.just.ee/en/news/estonia-does-not-develop-ai-judge>, last visited April 2024.

MILESTONES AND TRENDS IN THE DEVELOPMENT OF ICT IN EUROPEAN JUDICIARIES

This brief history of ICT in the European judiciaries starts in 1999 when a research project called “First European Seminar on Court Technology” was carried out. It was the first research project on ICT in Europe.⁵

The idea behind this research project acknowledged a lack of information on the subject. As researchers in judicial administration and comparative justice systems, we were aware that European judiciaries were independently investing in ICT, but very little was known. Moreover, no effective means was in place for sharing that information in the courts and justice communities. This could certainly be due to language barriers, but it was also because the study of judicial administration did not have, until much more recently, many European specialized scholars and research institutions that promoted it.⁶

The research and its final event were aimed at: a) describing the current and planned use of court technology in the European Union; b) identifying, discussing and disseminating the most effective and successful applications; and c) developing a network of court technology researchers, practitioners and policymakers, leading to the scheduling of periodical European court technology conferences.

One of the aims of this research project, its final seminar, and the book that was then published,⁷ was to stress the need to exchange information among European countries on ICT applications and thereby bring more attention to this topic by European institutions. It also acknowledged the need to involve more scholars in research in the field of judicial administration.

The seminar brought together for first-time practitioners from throughout Europe to share and discuss with academics their current inventory of functioning ICT tools and any planned future projects dealing with courtroom technologies, case management systems, electronic filing and data interchange, the strategies and policies for the management of ICT in justice systems.

In a nutshell, the research showed that a few countries, such as Finland, Norway, and Austria, had designed electronic case management systems and procedural rules for the exchange of legal documents generated both by the parties and the courts, in both civil and criminal cases. Some other countries, such as Italy, were struggling with the so-called “Trial online” for civil cases, and a criminal case management system that allowed a limited secure connection between prosecution and the courts.

Case management systems, with exceptions such as Finland, were simply electronic dockets that replaced their paper versions. At that time, the technological frontier was electronic filing and judicial data interchange among agencies and between parties.

⁵ The research project was led by the Research Institute on Judicial Systems of the National Research Council of Italy (IRSIG-CNR) in partnership with the Ministry of Justice of France, Centre for Information, Communication and Law (CITER), Leiden University, The Netherlands, Judicial Documentation Centre, General Judicial Council of Spain, Joyce Plotnikoff and Richard Woolfson, Consultants in Management, IT and the Law in Great Britain. The project was funded by the Grotius funds of the European Commission. The final seminar of the research was held in Bologna, Italy, in September 2020.

⁶ Fabri 2000, pp. 187–200.

⁷ Fabri and Contini 2001.

Many countries had projects underway, but very little had been implemented. What was missing was functional information exchange between European judiciaries. Another common trend was the mistaken tendency to simply convert manual paper procedures to electronic ones with no major changes in the procedural rules such as those ensuring data quality and security or improving functional efficiency. This absence of a thorough understanding of how to establish specific system objectives, taking into account the importance of procedural rules and when to amend them, combined with high-tech vendors marketing generic business applications as “solutions” that failed to take into account the peculiarities and specificities of how courts operate, resulted in several failed projects.

Fully implementing ICT in judicial and court systems requires many changes in procedural codes and in long-established practices. It also was clear that the road to e-justice would end up with many more twists and turns than planned. The research showed the complexity of the judicial environment, due to the variable objectives and goals of the main stakeholders (i.e. judges, prosecution departments, and bar associations). Another complicating factor was the generally conservative attitudes of the bench and bar, which are steeped in anachronistic practices and traditions, and who are often suspicious of attempts to introduce fundamental innovations in court processes and procedures. Investigations revealed that several countries were already using audio recording, and Italy was testing audio-video hearings records, which later have been effectively used to remotely interrogate key mafia case witnesses.

Four years later in 2003, another research project was initiated. Led by the Research Institute on Judicial Systems of the National Research Council of Italy (IRSIG-CNR),⁸ it enabled the collection of updated information on the Judicial Electronic Data Interchange.⁹ The research findings were not very different from what had been concluded a few years earlier, but it resulted in a very interesting watershed project in justice sector ICT development: “Money Claim Online” (MCOL) implemented in England and Wales in 2002.¹⁰

MCOL allows English and Welsh citizens to file monetary claims online. If the claim is challenged by the alleged debtor, the procedure follows the ordinary court path; otherwise, it is approved electronically.¹¹ In those years the first fully-fledged online

⁸ Four years ago, the Institute changed name as follows: Bologna branch of the Institute on Legal Informatics and Judicial Systems, National Research Council of Italy (IGSG-CNR).

⁹ The partner of this research project along with IRSIG-CNR were the Institute of Constitutional and Administrative Law, Utrecht University, the Netherlands, the interdisciplinary Centre for Law and Information Technology, Catholic University, Leuven, Belgium, the Research Centre for Judicial Studies, University of Bologna, Italy, and the State Information Technology Court Service, Norway. The following year another grant from the European Commission allowed to carry out a research on the technologies used by the public prosecutor’s office (Fabri 2007). The most interesting research finding was the existence of some primordial applications of data and text analysis to generate investigation hints and patterns. The prosecutor’s office showed the same problems already emerged with the courts. There were not many case management applications and the exchange of information among data basis, which is of fundamental importance for the prosecutor’s office were still quite limited.

¹⁰ <https://www.moneyclaim.gov.uk/web/mcol/welcome>, last visited April 2024.

¹¹ Kallinikos 2009; Lupo 2014.

dispute resolution procedure was implemented in a European judiciary.¹² It was, and still is, a success story. One of the keys to its success was the technological strategy of “functional simplification”. The procedure, already quite simplified for small claims, was further streamlined to ensure maximum effectiveness and efficiency in larger, more complex claims. The law was adapted to reflect the technology needs, and the technology became a functional enabler of new practices.¹³

The 2003 study confirmed the existence of many projects but little in the way of new up-and-running applications. The main challenge for ICT applications developers in the judiciary was designing, testing and implementing the electronic exchange and filing of documents. As a consequence, few judiciaries deployed applications.

Over the years it has been quite clear that, on the one hand, overly ambitious “systemic” and “holistic” projects were too difficult to manage and successfully deploy in the judiciaries; they failed to achieve their expected results, entailed significant cost-overruns, and were abandoned. Empirical evidence shows that projects that are very complex in terms of the number of actors involved, that seek to achieve or fundamental changes in working practices, and that entail lengthy and costly learning curves and training for judges, the practicing bar, and court staff are frequently doomed to failure.

Major failures of ICT applications projects for EU judiciaries that have been documented are, in chronological order, the “Phenix” project in Belgium,¹⁴ and the KEI (Kwaliteit en Innovatie Rechtspraak) project in the Netherlands.¹⁵

Although admitting to failures is painful, documenting why can be an important source of information for lessons learned, mistakes to be avoided, and public revenues saved.

On the other hand, projects that were designed with “progressive steps forward” have delivered useful, although limited, IT justice services. Targeted simple projects with clear objectives and perceived and measurable benefits even in the short term, that introduce information technologies and efficiencies into the more repetitive and established judicial work have seen significant success. Projects that require substantial investments in design, regular end-user input, effective pilot testing, and incremental implementation over time with sufficient and comprehensive end-user training have a much greater chance of success.

¹² I believe that the term Online Dispute Resolution should not be limited only to Alternative Dispute Resolutions (ADR) as it usually is (Ortolani 2023).

¹³ Kallinikos 2009, Contini and Lanzara 2009.

¹⁴ “The Phenix project was tested during the first half of 2000 in the cities of Eupen, Tournai, and Turnhout. After the pilots, all Belgian courts were supposed to be progressively connected to the system, a process expected to be completed in 2008. However, the Phenix project was scrapped in its entirety in 2007, after the realisation of a full-scale project turned out to be infeasible in practice. Instead, it was replaced with a number of smaller scale and bottom-up applications (such as the pilot ones initiated in 2008 in the cities of Charleroi and Torhout) to be developed under the joint name of Cheops” Droit at Droit – Right to Law (2012) p. 113.

¹⁵ “KEI was the Quality and Innovation Program of the Netherlands judiciary from 2013 to 2018. It was intended to digitalize the entire court system. The Council ended the KEI program in 2018 due to a lack of support from Court presidents and the decision of the Ministry of Justice to stop financing the program. When the KEI program was terminated in 2018, the civil commercial claims procedure was working in two pilot courts, it was not implemented in the other nine first instance courts.” (Reiling and Contini 2022, p. 8). Please see also Contini and Reiling 2022.

Typical examples are still the robust platform and applications developed in Austria, the already mentioned Money Claim Online in England, and the CITUS system used in Portugal. Mention also should be made of the Italian “Trial online”, which nowadays is outdated but, considering its size and complexity, was one of the first major e-filing systems used in European judiciaries in those years.

Several countries have taken lessons learned from their mistakes and have tried to modify their development strategy.¹⁶ From a “holistic” approach there has been a general shift to an “incremental” approach, perhaps in the short term less politically expendable, but certainly providing more added value to judicial administration services. Successful cases show that there was little room for so-called “symbolic policies”, for overly ambitious “systemic projects”, while much space was given to identifying concrete needs for improving judicial services and the contribution that ICT can significantly and realistically make. Repetitive procedures with large numbers, such as payment orders, injunctions, and “small claims”, are the best candidates for automation. Information technology gives excellent results when it is applied to repetitive, time-consuming procedures.

In 2011 the book, *The Other e-justice (L'altra e-justice)* was published in Italian,¹⁷ one of the first European books that dealt with the empirical use of machine learning and statistical algorithms to analyse case law. It was a pioneering work, showing for the first time the potential of these tools in practice. Starting from a reliable corpus of case law in digital format, it documented that is possible to forecast the outcome of decisions, today referred to as “predictive justice”, and to extract valuable data to assess, and then forecast, the length of the procedures.

Over the past fifteen years, European governments have constantly invested in ICT for their judiciaries in the areas of case-management systems, electronic filing, electronic case files, online dispute resolution (access to justice), case law with the anonymization of selected data, and remotely accessible hearings.

Also, the European Union Commission has stressed that “*the digital transformation of the justice sector is one of the domains in which Member States are strongly encouraged to focus reforms and investments*”¹⁸.

Information on the “state-of-the-art” of the different applications in the various countries can be found on the website of the European Commission and of the Council of Europe and related documents.¹⁹

¹⁶ Dutch Temporary Committee on Government ICT Projects 2014.

¹⁷ This project (FIRB), was supported by the Italian Ministry of University and Research and was coordinated by IRSIG-CNR (Fabri 2011).

¹⁸ European Union Commission 2020b, p. 6.

¹⁹ https://e-justice.europa.eu/280/EN/online_processing_of_cases_and_ecommunication_with_courts, last visited April 2024. The Resource Centre of CEPEJ serves as a publicly accessible focal point for reliable information on AI systems and other key cyberjustice tools applied in the digital transformation of the judiciary. It shall help to gain an overview of such systems and tools, providing a starting point for further examination on their risks and benefits for professional and end-users in line with the “*European ethical Charter on the use of AI in judicial systems and their environment ... The entries in the Centre are based on the information given by relevant authorities, or available in the public domain. The Centre does not imply any affiliation, endorsement, or recommendation of the presented systems by the CEPEJ or the Council of Europe in any form whatsoever*”. <https://www.coe.int/en/web/cepej/resource-centre-on-cyberjustice-and-ai>, last visited April 2024.

The most important flaw of this information is that there is still not any empirical evaluation as to the operational functionality of the applications reported in these data bases. They are simple descriptions by the various justice institutions (i.e. Ministry of justices, judicial council, stakeholder agencies, etc.), but nothing is referenced about how well the various applications function, or whether they contribute significantly to improving court or judicial efficiency. I am not aware of any recent independent study that has tried to assess the various platforms and applications and, even less, try to compare similar developments in the various countries.

As prospective purchasers of justice-related ICT platforms and applications, courts and justice systems are at a disadvantage because of the absence of concrete and practical assessment data, the lack of comparative maintenance cost data, the learning curves, the extent to which they improve the quality of services provided to court clients, civil and criminal, the ease of use, the availability of help desks, and the extent to which they truly enhance the administration of justice.

There is no shortage of ICT projects and ideas in the justice field. Where there is a shortage is in studies based on empirical evidence that provide validated assessments of ICT investment in judicial and court systems. Conducting assessments of such often complex and costly investments is extremely difficult due to the myriad variables that should be taken into account, not only technological and financial but also those related to the core function of the judicial business as set forth in Art. 6 of the European Convention on Human Rights:

“In the determination of his civil rights and obligations or of any criminal charge against him, everyone is entitled to a fair and public hearing within a reasonable time by an independent and impartial tribunal established by law”.

In the rush to embrace new ICT technologies and applications, judges, court system administrators, and justice stakeholders should not lose sight of the basic and founding principles of the judicial function in democratic societies.²⁰

THE EUROPEAN UNION (EU) PROJECTS

Along with several ICT projects under development in various countries, the European Commission has launched different trans-European ICT projects intended to digitally support conformity to EU regulations about justice and consumers. Among them, just as an example, are the European Case Law Identifier (ECLI), the European Criminal Record Information System (ECRIS), and the e-Justice Communication via Online Data Exchange (e-CODEX).

ECLI is a uniform case law identifier that has the same format for all EU Member States and EU courts and a minimum set of uniform metadata for case law, intended for use by all court systems across Europe to facilitate easy access to case law.²¹

20 Council of the European Union 2023, p. 10 “Promoting digitalisation requires a strong focus on the effectiveness of the protection guaranteed by existing fundamental rights. Initiatives in the context of the digital transformation of justice need to respect judicial independence and comply with the rule of law, which is one of the core values on which the European Union is founded, under Article 2 of the Treaty on European Union, and which are common to the Member States”. See also CCJE 2011.

21 https://e-justice.europa.eu/content_european_case_law_identifier_ecli-175-en.do, last visited February 2024.

ECRIS is designed to provide access by courts and prosecutors' offices to the criminal record of persons resident in EU Member States.²²

e-CODEX aims to develop a European online platform to enable the exchange of legal documents among courts and lawyers/parties of different countries. For example, via e-CODEX a litigant could file electronically a money claim in one EU country against a debtor in another one, transfer evidence between different countries using the secure e-CODEX platform, as well as to send a European Investigation Order (EIO). Many other projects are expected to benefit from the use of the e-CODEX infrastructure.²³

The plans are quite promising, but I fear the implementation of these promising systems will not occur for several years in the EU countries along with the assessment of measurable benefits for citizens and courts. As of today, after many years of development and many Euros invested, no perceptively significant improvements have been effected by the projects mentioned above. Even the investments to standardize the European Order of Payment and the European Small Claims Procedure have not yielded the expected results thus far.²⁴

The EU e-Justice strategy 2024–2028²⁵ mentions that the promotion of ECLI and e-CODEX access points in all member states are actions that should be taken in the following years. The e-Justice strategy also reports that *"The e-justice Portal and EUR-Lex have proven valuable in facilitating access to justice and improving efficiency of justice systems"*.²⁶ Some data should support such a statement because, as I mentioned earlier, based on the data available and the contents of the e-Justice portal, it is not clear how it has improved the efficiency of justice systems. The major challenges, as usual, are not merely the technological; we need consistent legislation, effective working practices, and a supporting organization. Every EU judicial system is called upon to undertake a significant effort to draft and adopt their substantive and procedural rules to accommodate use of different EU tools/platforms which, to date, have not attained the minimum user thresholds they require. In addition, they should adapt their ICT national systems to the EU needs, which may require significant investments in time and resources and also may require amending legal and procedural codes, rules, and organizational practices. Much more instructive communication is required on the importance of such EU initiatives, the development of more user-friendly applications, and in thorough training of the users.²⁷

However, a boost to the use of ICT in the judicial sector has certainly emerged from the Covid-19 pandemic.

22 https://commission.europa.eu/law/cross-border-cases/judicial-cooperation/tools-judicial-cooperation/european-criminal-records-information-system-ecris_en, last visited February 2024.

23 <https://www.e-codex.eu/> last visited February 2024.

24 Ontanu 2019.

25 Council of the European Union 2023.

26 Council of the European Union 2023, p. 17.

27 The importance of training is also mentioned in the EU e-Justice strategy 2024–2028 *"special attention should be paid to the initial and continuing training given to justice professionals, supporting the development of digital professional skill"* Council of the European Union (2023), p. 17.

In 2020 the COVID-19 pandemic was a watershed in the boosting of the use of ICT in European judiciaries. The fundamental question, however, is the sustainability of those applications over time as courts could revert back to their old ways of operating or as new and better applications are released.²⁸

The COVID-19 pandemic made compulsory the use of digital platforms and applications in judicial systems, and it exposed the challenges of using them in a highly formalized and rigid system of rules and consolidated practices.

COVID-19 pushed hard toward the digitalization of judicial communications and processes.²⁹ However, it was also clear that in many countries much remains to be done, notwithstanding the significant investments already undertaken in the recent past.

The protracted COVID-19 emergency certainly disrupted consolidated working rules and practices, providing a unique opportunity to finally revise and change those that are obsolete and dysfunctional, but it is not clear with the end of the emergency if this opportunity has been exploited.

The challenge is to learn from positive experiences, to permanently discard old-fashioned and inefficient practices, and to implement effective digital services, simple, sustainable, and trustworthy for the legal community, for self-represented litigants, and for the general public.

COVID-19 has also clearly shown that the use of digital technology in realm of justice administration should not discourage or inhibit granting everyone access to justice. Courts must ensure that no party is placed at a disadvantage vis-à-vis others because it lacks the resources to access the relevant technology.³⁰

Justice consumers can be very different needs and expectations. It is crystal clear that lawyers have different needs and tools than self-represented litigants. ICT applications for courts should have the flexibility to tackle most of the different needs and demands of their different users. ICT must not constrain anyone's access to justice.

The European Commission has clearly stated that *"It is important that existing and new IT tools are interoperable by default, accessible for persons with disabilities, user-centered, fast, secure, reliable, resilient and data-driven, and ensure privacy, data protection, and transparency"*.³¹

How these tools are designed and used in practice entails a far more complicated story.

Among the ICT tools that boomed during the pandemic was the use of "teleservices", broadly defined as tools that provide digital and remote communication, from telephone to high-quality videoconferencing. Some of these tools such as call-centers, chatbots, and online text assistance, have already been adopted by courts to different degrees, but the compulsory use of remote hearings via videoconferencing

28 Sourdin and McNamara 2020; Fabri 2021, Ontanu 2023.

29 CEPEJ 2020b, European Union Commission 2020c, Velicogna 2020.

30 Chapman 2020; UNODOC 2020.

31 European Union Commission 2020c, p. 6.

was the rule. What will be their use in the years to come is something that should be monitored to determine whether and how they can be effectively used for all kinds of cases, for example, also for those in which self-represented or vulnerable litigants are involved.³²

The use of videoconferencing should not infringe on the right to a fair trial and the rights of defense, such as the right to attend one's trial, to communicate confidentially with the lawyer, to put questions to witnesses, and to challenge evidence.

There also is a need to carefully assess the comparative impact on the decision-making process of remote hearings versus with face-to-face proceedings. Body language, and gestures may be perceived differently during remote proceedings, and all participants may feel emotionally, as well as physically, detached from hearings in which they participate.³³

The fundamental question is whether judges, lawyers, and court users are ready for the delivery of justice outside a brick-and-mortar courtroom, and whether the traditional symbols of justice, which also affect its legitimacy, still make sense.

COVID-19 has also shown that technology challenges the role and functions of judges, clerks of courts, and lawyers. ICT is quickly reshaping judicial roles, rules, practices, symbols, and even buildings; it calls for a profound rethinking of the justice business.

The need to limit to use of oral arguments during the COVID-19 emergency has revamped the use of written communications. Clerks of the courts also are facing significant changes. Most probably the most relevant activities shortly will be to provide support to judges and parties on digital applications and proceedings.³⁴

Digital services are changing the role of lawyers as intermediaries between the litigant and the courts.³⁵ The expected growth of online procedures and legal services will increase in countries where self-representation is permitted. COVID-19 has illustrated that lawyers as well as judges need to improve their ability to quickly adapt to changing circumstances as we all are swept into an increasingly "digital world".

The outbreak has also shown how reliable and timely meaningful data are essential to make evidence-based decisions. Electronic filing, digital sentences, case management systems, and data lakes have the potential to improve dramatically the quantity and quality of the information available to justice stakeholders. This information should help to take better-informed policy decisions at the national and the court level.

ARTIFICIAL INTELLIGENCE (AI) IN THE JUDICIARY

These recent years, and the years to come, are the ones of artificial intelligence (AI). AI is monopolizing the academic and policy-making debate in different fields, including the judiciary.

32 (The) Law Society 2019, 2020.

33 Fielding et al., 2020; Hough 2012; Hough and Zorza 2012; Law and Society 2020; Zou 2020.

34 OECD 2019.

35 Susskind 2017.

As of today, as far as I know, there are no significant up and running AI applications in European courts.³⁶ I believe that, at least in the judiciary, there are still many “traditional” problems to which “more traditional” technologies may contribute. Current discussions on AI in the judicial field tend to focus more on being “fashionable” than on using technology to solve real problems.

However, the potential for and the implications of AI in the justice domain are undoubtedly on the horizon. The European Union Commission stated that:

“While the advantage of introducing AI-based applications in the justice system are clear, there are also considerable risks associated with their use for automated decision-making and ‘predictive policing’/‘predictive justices’ ... The opacity of certain AI applications can be a challenge concerning the need to justify decisions, the equality of arms concerning parties in judicial proceedings, and other principles. Appropriate safeguards are needed to guarantee the protection of fundamental rights, including equal treatment and data protection, and to ensure the responsible, human-centric development and use of AI tools where their use is in principle appropriate ... It is important that judgements are delivered by judges who fully understand the AI applications and all information taken into account therein that they might use in their work, so that they can explain their decision ... It is therefore important that judges and prosecutors are trained on the use of AI applications”.³⁷

The European Commission for the Efficiency of Justice of the Council of Europe drafted the “European Ethical Charter on the Use of Artificial Intelligence in Judicial Systems and their Environment” in December 2018.

The Charter states five principles that should be addressed when considering the use of AI. 1) the principle of respect of fundamental rights; 2) the principle of non-discrimination; 3) the principle of quality and security; “concerning the processing of judicial decisions and data, use certified sources and intangible data with models conceived in a multi-disciplinary manner, in a secure technological environment”; 4) the principle of transparency, impartiality, and fairness; and 5) the principle ‘under user control’, to “preclude a prescriptive approach and ensure that users are informed actors and in control of their choices”.³⁸

The Charter also collected what was called an “In-depth study on the use of AI in judicial systems” in 2018, when the charter was published. The study was supposed to be based on a survey that did not get the expected results and the inventory was “only partial and is based solely on research conducted by experts and the secretariat using publicly available literature”.³⁹

³⁶ I use here AI in a very broad sense. This is not the place to argue about what is, or should be, the definitive meaning of AI. However, I believe quite often applications referred to as AI in practice are not.

³⁷ European Union Commission 2020b, p. 11.

³⁸ <https://www.coe.int/en/web/cepej/cepej-european-ethical-charter-on-the-use-of-artificial-intelligence-ai-in-judicial-systems-and-their-environment>, last visited February 2024.

³⁹ CEPEJ 2018, p. 17.

In a nutshell, it is safe to say that, based on that research in 2018, there were no up-and-running AI applications in the European judiciaries, although there were some projects underway. The situation was, and still is, different for private companies that support law firms, which use AI for litigation analysis and company due diligence (e.g. Predictice in France, Luminance in United Kingdom).⁴⁰

In September 2020 the European Commission published a study on the use of innovative technologies in the justice field.⁴¹ The Final Report analyzed 93 projects from European member States and judicial authorities, identified in responses to a questionnaire and interviews. The study mentions a few projects on “innovative technologies” (i.e. AI and blockchain/distributed ledger technology DLT) in select EU judiciaries, most of them dealt with semi/pseudo anonymization, case law analysis, calculation of compensation damages, and voice recognition.⁴²

The study also singled out eight so-called “*categories of business problems*” that are anything new in judicial administration. They are: 1) processing a high volume of data; 2) processing a high volume of video, audio, and images; 3) linking information across different sources; 4) access to justice/public services; 5) data protection compliance; 6) preparing high volume of data; 7) administrative/facilities management; and 8) lack of authenticity and traceability.

One of the four recommendations of the study advises that “*in order to avoid duplication of effort and to ensure semantic and organizational interoperability, there is a need for coordination of improved communication on project activities at EU level*”.⁴³

A very similar recommendation was made almost 25 years ago,⁴⁴ apparently not yet implemented but certainly still important.

It is also worth mentioning that France in March 2019⁴⁵ was the first country and, as far as I know, the only one to date, to enact a law provision to ban the use of some analytics when processing judicial decisions; “*the identity data of judges, prosecutors, and court staff cannot be reused to evaluate, analyse, compare or predict their real or supposed professional practices*”.⁴⁶

It appears that the French judiciary is very concerned about the misuses of AI. Indeed, more recently, in February 2024, the Commission for the Efficiency of Justice working group on Cyberjustice and Artificial Intelligence published an information note based on a draft prepared by two experts of the French Ministry of Justice on the “Use of Generative Artificial Intelligence by judicial professionals in a work-related context”. The aim of the short note was “*to give some preliminary thought to what judges and other public sector justice professionals can expect from the use of generative AI tools in a judicial context*”.⁴⁷ However, these preliminary thoughts are a list of cautions,

⁴⁰ <https://www.caselawanalytics.com/>, <https://predictice.com/>, <https://www.luminance.com/>.

⁴¹ Spasojevic 2020.

⁴² Spasojevic 2020, p. 372.

⁴³ Spasojevic 2020, p. 15.

⁴⁴ Fabri and Contini 2001.

⁴⁵ Law 2019-222, 23 March 2019.

⁴⁶ Art. 33, Law 2019-222, 23 March 2019.

⁴⁷ CEPEJ 2024, p. 2

sometimes impossible to address, that *de facto* discourage the use of AI applications without considering the benefit that it may bring.

The EU Parliament has recently approved⁴⁸ the “Artificial Intelligence Act”.⁴⁹

The Commission’s aim is quite ambitious:

“The AI Act is the first-ever legal framework on AI, which addresses the risks of AI and positions Europe to play a leading role globally ... the aim of the new rules is to foster trustworthy AI in Europe and beyond, by ensuring that AI systems respect fundamental rights, safety, and ethical principles and by addressing risks of very powerful and impactful AI models”.⁵⁰

The AI Regulation framework has four levels of risk: “unacceptable, high, limited, and minimal”. The administration of justice is considered at the “high risk” level. The AI systems at this high risk level will be subject to strict requirements before they can be put on the market, including the following: adequate risk assessment and mitigation systems; high quality of the datasets feeding the system to minimize risks and discriminatory outcomes’ logging of activity to ensure traceability of results; and detailed documentation providing all information necessary on the system and its purpose for authorities to assess its compliance, clear and adequate information to the user, appropriate human oversight measures to minimize risk, high level of robustness, security and accuracy.⁵¹

A new European AI Office within the Commission will oversee the AI Act’s enforcement and implementation “*will be the centre of AI expertise across the EU. It will play a key role in implementing the AI Act ... foster the development and use of trustworthy AI, and international cooperation*”.⁵²

In addition, the transition to the new regulatory framework is supposed to be facilitated through the AI Pact, a voluntary initiative devoted to AI developers to comply with the key obligations of the AI Act.

48 https://www.europarl.europa.eu/doceo/document/TA-9-2024-0138_EN.html#title2. “The regulation is still subject to a final lawyer-linguistic check and is expected to be finally adopted before the end of the legislature (through the so-called corrigendum procedure). The law also needs to be formally endorsed by the Council. It will enter into force twenty days after its publication in the official Journal, and be fully applicable 24 months after its entry into force, except for: bans on prohibited practises, which will apply six months after the entry into force date; codes of practise (nine months after entry into force); general-purpose AI rules including governance (12 months after entry into force); and obligations for high-risk systems (36 months)”. <https://www.europarl.europa.eu/news/en/press-room/20240308IPR19015/artificial-intelligence-act-meeps-adopt-landmark-law>, last visted April 2024.

49 <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>, last visited April 2024. “The AI Act is part of a wider package of policy measures to support the development of trustworthy AI, which also includes the Ai Innovation Package and the Coordiantion Plan on AI. Together, these measures will guarantee the safety and fundamental rights of people and businesses when it comes to AI. They will also strengthen uptake, investment and innovation in AI across the EU”.

50 <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>, last visited May 2024.

51 A quick overview of the European AI Act is available at: <https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai>.

52 <https://digital-strategy.ec.europa.eu/en/policies/ai-office>, last visited April 2024.

This is a typical example of how the European Union works. It generates massive regulations that sometimes end up being very difficult to apply in practice. In particular, considering the rapid progression of technology and the impossibility, of regulating its possible deployment in advance. A more effective strategy might be to establish a fast-track review process that is activated when the technology is about to be deployed to verify in a sandbox that does not impinge on fundamental rights and values.

CONCLUDING REMARKS: SOME LESSONS LEARNED OVER THE YEARS AND WHO KNOWS WHAT'S NEXT?

Over the years, European judiciaries have learned some hard lessons about deploying ICT. Previous experience and the impact of COVID-19 on justice operations have shown specifying unnecessary technical complexity into ICT projects often entails creating unnecessary obstacles that impede access to justice and equality of arms. “keep it simple” is still a mantra in ICT development. After 20 years, I believe this statement still makes sense: *“The greatest obstacle to progress is only in part the maturity of technology; to a greater degree, it is the capacity of institutions and organizations to make the changes to the actual working practices and attitudes needed to reap the benefits that the technology can bring”*.⁵³

European judiciaries have faced ICT challenges using a variety of different approaches. Some deployed pragmatic and orchestrated approaches, starting with projects that were manageable, feasible, and promised results that were deliverable in reasonable timeframes. Others with grand ambitions sought to develop technically complex comprehensive systems with multiple interactive components serving a number of stakeholders simultaneously. This approach almost always resulted in major cost and delivery time overruns, and their projects either ultimately failed and were abandoned after significant investment or delivered systems that were slow, difficult to manage, entailed long and steep user learning curves, and produced inferior results.

Generally speaking, judges and court staff have welcomed the introduction of ICT in their work where the applications are user friendly and the benefits for the administration of justice are obvious. Problems arise when the applications are slow, not user-friendly, or where the training has been inadequate. Judges and court staff should participate throughout the applications design and testing processes, and work closely with training experts in developing the training modules.

It is obvious but still necessary to note that how the lawyers approach technology can make a significant difference in the effective interplay with courts. Past experience shows that all the users of the justice process have to be involved in the development of ICT from the initial stages.

It also should be emphasized that both the size and the governance of the judiciary play a role in the development of ICT. Judiciaries in small countries and in general, those that did not begin their automation projects relying on old legacy-era mainframe systems or applications residing on old mainframe computers, were fortunately bypassed an era in which court automation was much more challenging and problematic than it is in the 21st century. This was the pioneer era in court automation that relied on operating platforms and programming languages much

53 Fabri and Contini 2001, p. 17.

more cumbersome than today's. This path-dependency legacy was, and some case is still, more problematic to overcome.

The implementation of ICT applications in large judiciaries with thousands of judges and administrative and operational personnel, is always more challenging because of the large range of practices, procedures, and operations that have to be converted from manual to electronic means. The numbers of judicial and court staff requiring orientation and training can be enormous. As a consequence, end user orientation and training require very well-planned and effective strategies and coordination. Before COVID-19, training was almost exclusively carried out in classroom settings. Post-COVID-19 training relies much more on remote training of larger audiences which increases the number of people trained and decreases costs, but it must be carefully planned and effectively delivered.

ICT developments have been, and still are, affected by the institutional governance of the judiciaries.⁵⁴ For example, dual systems as Italy's in which the judiciary is *de facto* managed by the Ministry of Justice and by a Judicial Council make things very complicated. The situation is also more challenging where systems development occurs in a decentralized judiciary, such as in Spain, and also, to a different extent, in Germany. Judiciaries that have a single governance authority, for example the Administration of Courts Office in many Nordic countries, or the Ministry of Justice and the Federal Computing Centre in Austria, have experienced fewer obstacles and delays in defining and implementing ICT projects.

European judiciaries have certainly increased the exchange of information through the so-called e-Justice Working Party within the Council of European Union, but it is not enough. The e-Justice strategy 2024–2028 also expresses the need to facilitate and exchange information about national projects. Unfortunately, there are no effective ideas on how to facilitate this exchange. Apparently, the only solution proposed by the EU e-Justice strategy is the creation of a newsletter for sharing experiences and ongoing initiatives.⁵⁵ Quite frankly it does not seem sufficient.

Therefore, there is still a lack of information sharing among the EU judiciaries. This constrains the ability to identify good practices and to learn from common mistakes. Each European judiciary essentially is still blazing its own path in a context in which is always more difficult to hire fully qualified technical personnel because of lower government salaries and fewer career advancement opportunities in comparison to the private sector. These factors increase the pervasive role of vendors and consultants in the technological development of judiciaries, which can threaten judicial independence.

The European e-Justice strategy 2024–2028 is full of general objectives with the so called “fundamental and operational principles” to be taken into account during the digitalisation.⁵⁶ They are: respect for fundamental rights and principles; access to justice for all, people special; bridging the digital divide; digital empowerment and capacity building among users with centrality attention paid to training for justice professional, and sustainability.

54 Ontanu 2024.

55 Council of the European Union 2023, p. 29.

56 Council of the European Union 2023, p. 10.

The operational principles are: once-only to avoid redundancy digital by default, effective legal protection and access to justice, interoperability and cybersecurity; to be adaptive to ever-changing needs of society, data-driven; and open source.⁵⁷

The hiatus between principle statements and concrete actions has been a preeminent feature of ICT developments in the European Union judicial context. Unfortunately, very little has been seen in up-and-running applications, taking into consideration the resources invested.⁵⁸ Maybe things will change in the future, but I believe this will be possible only with a dramatic change in the EU e-justice policy design and implementation.

It is a mission impossible to look ahead because technology is developing very fast and applications that once considered quite futuristic are now available. However, I can try, based on research findings and past experience, to share some food for thought.⁵⁹

It is self evident that AI will take the scene for many years to come. However, there are still many useful applications that could be developed without forcing them into the fashion of artificial intelligence. Many courts still struggle with old case management systems. Access to courts is still very difficult, particularly for self-represented litigants and for vulnerable people. Data collection and analysis are quite poor in many judiciaries, and policy making is still quite often not evidence-based. These are areas of intervention that can benefit from investments in “traditional” ICT applications and, maybe, subsequently improve thanks to further developments through the use of AI.

The development of AI is unstoppable and it is already affecting law offices (legal tech) and, in the near future, judges, prosecutors, defense counsel, and court

⁵⁷ Council of the European Union 2023, p. 15.

⁵⁸ Council of the European Union 2023, p. 617 November 2023. “The Regulation and Directive on the digitalisation of cross-border judicial cooperation and access to justice (the ‘Digitalisation Package’) are key pillars on which e-Justice will be based in the coming years. The implementation of these legal acts will be the foremost priority for the period covered by this Strategy. Implementing acts for the 24 legal instruments covered by the Digitalisation Package will have to be discussed in committees with Member States’ representatives. The decentralised IT system for those instruments will have to be set up through national access points, connecting the instances of the reference implementation software and/or national solutions. At the same time, the principles of electronic communication as well as the European electronic access point set out in the Digitalisation Package should be considered a basis for any new legislative initiative in the European e-Justice field”. And again (p. 7) “significant impetus that has been given to the e-Justice field and how it is progressively moving from an approach based on voluntary participation in digitalisation initiatives to a mandatory approach based on legislative acts that provide greater legal certainty. It also demonstrates the step forward that has been taken in enhancing the digitalisation of justice in the European Union”.

⁵⁹ The European Research Council has recently presented a report on the research grants devolved to AI in the last 15 years (European Union Commission 2024). Among more than 1,000 projects only 43 (p. 22 of the report) have been dealing with justice and law. Projects have dealt with access and reuse of case law, anonymise or pseudonymise documents, monitoring and identification of criminal activities, automated rating systems, crime analytics, predictive justice, language processing for legal search and quantified legal prediction (data-driven law), automation of legal decision making (code-driven law), argumentation mining, dedicated software dispute resolution automation (DRA). The incipit of this last project is that “AI is applied increasingly in courts and informal arenas, replacing judges and mediators, as well as supporting and predicting judicial outcomes” (p. 23). It seems quite far from reality, perhaps the results of the research will enlighten us.

staff.⁶⁰ However courts and policy makers should not be too infatuated by AI, but should always consider what the ongoing functional needs of courts and court users are.

As mentioned above the fundamental principles that are embedded in democratic judicial process are supposed to be constantly protected from an overly intrusive AI. I believe this cannot be done simply by relying on preventive laws; rather, it requires constant monitoring of applications considered for use by the judiciary. I think it is utopian to try to cage AI in legal frameworks, but it should (must) be possible to test it before deployment, for example in sandboxes, to check if the application conforms with the fundamental justice values to be protected.

Technological developments are too fast and too broad to be protected by a wall of laws, but the “castle doctrine” could be effective to avoid intruding applications.

What is certain is the need for judges, court staff, and more generally legal professionals, to become aware of what AI can do, in order to exploit its potential, while building awareness about what should be avoided.

This will be even more important in the years to come when the “digital immigrants” will be substituted by the “digital natives”, who “*think and process information fundamentally differently from their predecessors*”.⁶¹

Maybe judges should see themselves as surgeons or flying pilots. AI is already extremely useful in medical diagnosis, a prognosis would be different, or in designing fly routes or autopilot systems, but critical and final decisions are supposed to be still in the brain of humans.

I make my own the words of the Vice-President of the European Research Council “*We must ensure that we stay ‘smart in a smart world’, a concept that encompasses staying informed, adaptable, and responsible in our engagement with AI ... this endeavour is about being proactive in harnessing the benefits of technology while mitigating its risks and ensuring it serves the collective good.*”⁶²

How this endeavour will be addressed is an open question to be investigated in the years to come.

COMPETING INTERESTS

The author has no competing interests to declare.

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⁶⁰ The literature on artificial intelligence in the judiciary is already quite extensive. I mention only a few references: Chahine 2018; Garapon et Lassègue 2018; Lupo 2019; Morison and Adam 2019; Sève 2018; Sourdin and Cornes 2018; Gali and Sartor 2023.

⁶¹ A Digital Native is a “native speaker of the digital language of computers, video games and the Internet ... Those of us who were not born into the digital world but have, at some later point in our lives, become fascinated by and adopted many or most aspects of the new technology are, and always will be compared to them, Digital Immigrant”. Presnky 2001, p. 1.

⁶² Gigerenzer, G. (2024), p. 3.

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