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**Introduction**

Technology has altered our society and culture in a profound way, radically altering the way in which we live our lives. The law too has experienced the impact of technology both in the substantive work that lawyers do as well as the mode in which they deliver said work to clients.[[1]](#footnote-1) Such technology can range from things like searchable legal research repositories which we would now consider indispensable to cutting-edge uses of artificial intelligence, which push the boundaries of what was previously considered possible. These innovations have brought with them cascading impacts on the nature of the legal profession and on how both lawyers and the courts deal with cases. Advancements in software, internet access, artificial intelligence, and blockchain are reshaping global judicial systems, offering the potential for increased efficiency and effectiveness. In this brief address, the aim is to provide a contextual overview of how technology has impacted the courts and administration of justice, exploring what kind of challenges and opportunities are posed by emerging technologies for legal practice and practitioners as well as more broadly touch on the substantive law and technology issues that are imminently approaching in the coming years.

Beginning first with the administration of justice, it is clear that technology has ushered in major changes. Prior to the 21st century, the Irish courts experienced a significant lack of investment with regards to ICT, something which was highlighted by the [Working Group on the Courts Commission](https://www.courts.ie/policy-reports-strategic-plans) which was active in the late 1990s and whose work would lead to the establishment of the modern Courts Service.[[2]](#footnote-2) The Working Group’s report emphasises the benefits of technological modernisation within the courts, specifically in regards to the creation of a digitised and unified case management system.[[3]](#footnote-3) However, there was underinvestment during the 2008 global financial crisis and the subsequent reduction in public expenditure led to the re-emergence concerns about the ICT infrastructure by the mid-2010s.[[4]](#footnote-4) Recent years have seen substantial efforts to address this, including a €100 million programme announced for the current decade which plans to whole-heartedly embrace the digitalisation of law.

The Covid-19 pandemic accelerated the adoption of online court proceedings, promoting a need for retrospective evaluation. A “Digital First” approach was adopted, which aims to achieve a modern, user-focused, and digital-first court system by 2030. Progress has already been made with achievements such as modernising application architecture, piloting an online appointment booking system, expanding video courtroom technology, and testing cashless payments.[[5]](#footnote-5) The Covid-19 pandemic led to certain aspects of ICT adoption to be prioritised, particularly the use of video-conferencing and remote hearings. Within the courtrooms themselves, this change is now readily visible, and this is reflected by the emerging data. For instance, this is borne out by the figures from the [Courts Service’s 2022 Annual Report,[[6]](#footnote-6)](https://www.courts.ie/acc/alfresco/8adf9153-bfec-4402-9c2b-cc3d51b83da5/The%20Courts%20Service%20Annual%20Report%202022%20FINAL.pdf/pdf#view=fitH) published last year, which highlight, for example, that 34,355 video appearances were made.[[7]](#footnote-7) This was enabled by the rolling out of video-technology across 120 courtrooms throughout the country.[[8]](#footnote-8) The Courts Services plans to continue the modernising of processes and systems as part of its “Modernisation Programme” to 2030, envisioning coherent digital journeys for users. Its “ICT Strategy for 2021-24” focuses on themes such as Court Technology, Unified Case Management Platform, Desktop, and Infrastructure Modernisation, among others. This strategy encompasses 42 significant actions, consolidating ongoing work, integrating internal and external systems, and exploring new technologies like e-signatures, artificial intelligence, and blockchain. While substantial work remains to update the infrastructure, the Courts Service’s ambitions extend to data management. A “Data Strategy 2021-24” has been published, aiming to enhance courts’ data management through 23 actions related to governance, data use, improved processes, and technology. This includes a commitment to developing a Court Service Open Data Portal, offering potential for interesting re-use of court data in the future.

Technical upgrades are of course not the only way in which technology has changed the courts. There have also been judicial innovations that have sought to adapt to the changing times. One such instance was in the unreported case of *Daly v. Lynch[[9]](#footnote-9)* from 2012 in which Peart J. granted the applicant an order for substituted service by way of Facebook Message where the defendant had been unreachable by other methods. This innovative approach to the interpretation of [Order 10, Rule 1 of the Rules of the Superior Courts](https://www.courts.ie/rules/substituted-service-0) was seen more recently in an application before McDermott J. where he granted substituted service by way of e-mail or any social media account against a number of Russian individuals who would otherwise have been extremely difficult to serve.[[10]](#footnote-10) Across the Irish sea, the UK High Court has gone so far as to allow substituted [service by way of blockchain](https://www.bailii.org/ew/cases/EWHC/Ch/2022/1723.html) via an NFT of the proceedings.[[11]](#footnote-11)

Several courts have sought to leap boldly into the AI space, with CJEU in particular being a leader in the field. In 2019, an innovation lab was established, and they are exploring, among other things, automatic translation of judgments into the official languages, speech-to-text transcription, and the production of subtitles on screen in real-time.[[12]](#footnote-12) Without doubt, these specific kind of developments in respect of translation are interesting for us in Ireland, where access to Irish-language materials has unfortunately been slow to materialise. The CJEU has also however been keen to approach the issue with caution, establishing a governance framework with oversight coming from an AI Management Board which will seek to monitor the use of AI on an ongoing basis across all areas.[[13]](#footnote-13) AI does offer courts a way to increase the efficiency and consistency of judgments, allowing judges to avoid what is termed by scholars as ‘noise’, or put more simply, the variability in decision-making by human judges.[[14]](#footnote-14) The values of efficiency are particularly seen where there are large case backlogs such as in Brazil where it is estimated that tens of millions of cases await determination.[[15]](#footnote-15) Thus, if AI can provide a system capable of delivering accurate, speedy and consistent judgments, there would appear to be a strong incentive in favour of its implementation. Such systems are arguably, for now, mostly theoretical and AI in the courts mostly appears as a tool rather as a judge.

Of course, the use of technology in the courtroom has not always proven to be positive. AI has for example been used in a number of jurisdictions to aid judges in decision-making, for instance in Estonia[[16]](#footnote-16) and the US.[[17]](#footnote-17) In the US, there has been a great deal of controversy regarding the use of the COMPAS system in sentencing and bail decisions. Much of this criticism centres around the potential for the bias of the algorithm in making decision-making based on the training data, leading it to further re-enforce existing inequalities.[[18]](#footnote-18) Thus, while algorithmic-assisted decision-making as regards bail and sentencing can provide a degree of transparency as to the judicial reasoning behind such decisions, it can also easily lead to the encoding of bias and unfair outcomes, especially for those most at risk of discrimination. Furthermore, research points to the value placed upon the process of judicial decision-making as opposed to the outcome. There is a certain level of trust and buy-in to the process of judicial decision-making and the ability of a judge to explain that reasoning, something which cannot accurately or comprehensively be dealt with by an AI system operating off a set of pre-programmed rules. Paradoxically, this would seem to make reasoning more opaque and less satisfactory to courts users. As Tasioulas argues, the process by which judges make decisions is inherently valuable and cannot be replicated, particularly in cases where the application of the rules strictly would result in deeply unfair or inequitable outcomes not to mention a loss of systemic flexibility.[[19]](#footnote-19)

Access to justice is another key element of the overall nature of the administration of justice. It has been noted in the past that access to justice in Ireland has been most difficult for those from marginalised groups.[[20]](#footnote-20) Barriers such as the high cost of litigation, poverty, lack of legal knowledge and scepticism towards the justice system and social norms contribute to the challenges in accessing justice.[[21]](#footnote-21) While technology holds the promise of easing this access, it must be designed with a focus on reliability, reduction of duplication and fragmentation, user-friendly interfaces, compatibility with public computers and cost-effective management.[[22]](#footnote-22) Great strides have been made towards access through the availability of video-conferencing as well as by greater public awareness enabled by technology. Innovative usages like the Court Service’s creation of a virtual reality courtroom simulation can help to make the courts a less intimidating place for service users as well as enhance understanding of the legal system among the general populace.[[23]](#footnote-23)

Naturally though, questions must be asked as to how these technologies impact and change the business of the courts. A key concern among members of the judiciary in recent times has been on how online proceedings via video-conferencing may interfere with the constitutional requirements that justice be carried out in public.[[24]](#footnote-24) Similarly, access to justice goes beyond physical access to the place where justice is carried out and into the wider ability of the public to understand the legal system and the operation of law in general. The greater dissemination of entry-level legal knowledge via the internet is of course to be welcomed, increasing the general public’s access to and understanding of the law. However, with the increase in information, there has also been a proliferation of unreliable content as well as disinformation and fraud.[[25]](#footnote-25)

Overall, the modernisation of the courts and the use of technology to increase transparency and awareness are positive steps although it is vital that critical questions be asked in relation to what the impact of technology is, especially when that technology becomes involved with the exercise of judicial functions.

In legal practice, there has also been a large impact and it is this aspect of Law Tech that the paper now turns. For example, within the last year we have seen the rise of large language models (‘LLMs’) like Chat GPT, which not only present a vast array of challenges for the profession but also opportunities. Numerous judges in other jurisdictions have publicly claimed use of Chat GPT in the writing of judgments[[26]](#footnote-26) and it is likely that more examples will continue to emerge, further complimenting the existing uses of AI by the courts as mentioned above. While such LLMs can enable lawyers to research quicker and analyse vast amounts of data and documents, the quality of outputs can vary wildly. One such instance occurred in the US where an attorney used Chat GPT to cite non-existent cases, leading to a court-imposed fine.[[27]](#footnote-27) For legal practitioners, the onus thus rests on them to make ethical use of technology and to ensure the quality of the data and whether it can be trusted. AI could also be used to greatly reduce the tedious work that lawyers may perform like document review and proofing, in other words bringing about the ‘demise of drudgework.’[[28]](#footnote-28) Changes may also be more systemic for the legal profession as a whole. Webb for example has predicted that the trend of commercialisation and the provision of market-focused legal advice will invariably drive the legal profession more broadly towards a model of lawyers being part of a multi-disciplinary consultancy team, with a subsequent increase in ancillary roles[[29]](#footnote-29) in a system of co-production.[[30]](#footnote-30) To a certain extent, this has already begun to play out in practice, with positions like knowledge managers, legal project managers and other non-traditional roles.[[31]](#footnote-31) There could also be risks emerging from this, in particular the problematic and murky area of services offering informal or pseudo-legal advice.[[32]](#footnote-32) While there has previously been some alarmist rhetoric about the replacement of judges and lawyers with robots, the academic literature is more sceptical, highlighting the difficulty of such types of automation.[[33]](#footnote-33) Indeed, even in Ireland, the actual uptake of Law Tech has been relatively slow with it trailing behind other jurisdictions making the spectre of the robot lawyer seem rather remote.[[34]](#footnote-34)

Of course, the rapid pace of technological development has not only changed the administration of justice and legal practice but also the law itself. Legislators and policymakers have for years been required to grapple with the new challenges posed by emergent technologies to existing legal regimes, facing the so-called ‘pacing problem’ as development races ahead of the legislative process.[[35]](#footnote-35) One area where this fundamental conflict between regulation and technological development is best illustrated is in the field of Artificial Intelligence (AI). AI, in many ways, has been at the forefront of the legal zeitgeist. Indeed, the [EU’s AI Act](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A52021PC0206)[[36]](#footnote-36) looks set to be the first of such type of regulation, providing a framework for the categorisation of various types of AI with corresponding legal duties for the manufacturers and providers of such systems. Such systems will undoubtably provide ample challenges for the courts to grapple withthe AI-related cases beginning to emerge in several jurisdictions, mostly notably perhaps in recent times, the copyright dispute being taken by the New York Times against Open AI in relation to Chat GPT’s use of the paper’s articles in model training.[[37]](#footnote-37) Similarly, issues of facial recognition and the processing of biometric data may also arise, with particular relevance to Ireland as the Government progresses with the creation of the Garda Síochána (Recording Devices) (Amendment) Bill of 2023. Digital services and platform regulation are an area where regulators have been extremely active ranging from the relatively recent [Digital Services Act](https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32022R2065)[[38]](#footnote-38) and [GDPR](https://eur-lex.europa.eu/eli/reg/2016/679/oj)[[39]](#footnote-39) to the [AVMS Directive](https://eur-lex.europa.eu/eli/dir/2018/1808/oj).[[40]](#footnote-40) Again Ireland, the European home of the likes of Facebook, X and TikTok, will play a key role with Coimisiún na Meán beginning to take its first steps in enforcing European regulation for some of the world’s largest platforms and corporations.[[41]](#footnote-41) It is not within the scope of this paper to analyse the vast array of law and technology issues, however they will without doubt continue to emerge as the rapid growth of technology continues unabated.

In conclusion, there is one core theme that emerges regarding the law and technology: a theme of balance. Technology has, indisputably, improved the efficiency of the administration of justice and opened up the law to the public in a way that had not been possible previously. It has greatly enhanced the ability of lawyers to build vast knowledge and carry out their work with efficiency, with technology removing the tedious work and allowing them to focus on the skilled work that is core to the profession. Similarly, the deployment of technology across society has brought benefits to all ranging from cheap and easy connectivity to the ability to access vast stores on information in the online space. However, while the benefits of technological development have been bountiful, they bring with them risks and challenges. Technology has vastly improved the efficiency of the courts yet algorithmic justice poses a potentially grave threat to fundamental rights. For practitioners, Law Tech requires that they cater ever more to the marketisation and to adapt lest they risk obsolescence. Finally, the growth of technology has increased the challenges to fundamental rights and poses all of us with serious questions about the future and how we can allow innovation to flourish while preventing the serious harms that can go with it. The former Chief Justice Frank Clarke put it best when, while commenting on the digitalisation of justice, he noted that technology was not “a silver bullet” but rather “a piece in the jigsaw.” This paper concurs with such sentiment. Technology can and will undoubtably have a positive role to play in the courts and in practice. It will therefore be vital to strike a balance, ensuring that the law can keep up with the times while safeguarding society’s core values.

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