AI4Lawyers – Artificial intelligence for lawyers: Guide on the use of AI and other novel IT technologies by European lawyers and law firms

OVERVIEW ON THE "AVERAGE STATE OF THE ART" IT CAPABILITIES OF LAW FIRMS IN THE EUROPEAN UNION AND GAP ANALYSIS COMPARED TO US/ UK/CANADA BEST PRACTICES

FEBRUARY 2021

European Lawyers Foundation
ANBI – Dutch Public Benefit Organisation
Fluwelen Burgwal 58, 2511 CJ Den Haag, The Netherlands – Tel. +31 612 99 08 18
E-mail: info@elf-fae.eu – Website: www.elf-fae.eu

The project is co-funded by the Justice Programme of the European Union

Publisher

Council of Bars and Law Societies of Europe

Rue Joseph II, 40

B-1000 Brussels (Belgium)

www.ccbe.eu

European Lawyers Foundation

Fluwelen Burgwal 58,

2511 CJ, The Hague (The Netherlands)

www.elf-fae.eu

Author

Peter Homoki

Contributors

Alma Steger

Barbora Klimešová

Carla Secchieri

Christian Lemke

Gerrit Vandendriessche

Iain G. Mitchell QC

Jakub Pohl

James Corbet Burcher

Jiří Novak

Lynne Forisky

Maitane Valdecantos Flores

Martin Maisner

Merit Aavekukk-Tamm

Michael Monahan

Nicola Moor Miller

Peter Aprile

Petr Poledník

Stanislas van Wassenhove

Thierry Wickers

European Lawyers Foundation (ELF) - Alonso Hernandez-Pinzon Garcia, Jonathan Goldsmith

Council of Bars and Law Societies of Europe (CCBE) - Stéphanie Alves, Simone Cuomo

Table of Contents

1 Introduction: background and aims of the AI4Lawyers project

On 19th October 2017, as part of addressing emerging trends, the European Council invited the European Commission to put forward a European approach to artificial intelligence ("AI") by early 2018. In the following communication of the European Commission[1], the Commission set out a European initiative on AI aiming to prepare for socio-economic changes brought about by AI by, among others, encouraging the modernisation of education and, anticipating changes in the labour market, supporting labour market transitions.

In the 2019-2023 Strategy on e-Justice, the Council also stressed that legaltech[2] domains such as AI, should be closely monitored, in order to identify and seize opportunities with a potentially positive impact on e-Justice.[3]

The Council of Bars and Law Societies of Europe (CCBE) represents the bars and law societies of its 32 member countries and 13 further associate and observer countries, and through them more than 1 million European lawyers. For more than a decade, the CCBE has been continuously following the effects new technologies have on the day-to-day operations of lawyers.[4] AI in general, and the possible changes that may be brought about by the tools customarily using artificial intelligence, has been a direct subject of numerous studies in multiple commissions and working groups since at least 2016.[5] The outcome of these studies and work products has been summarised in the CCBE Considerations on the Legal Aspects of Artificial Intelligence, adopted in 2020 ("CCBE Considerations").[6] The CCBE Considerations devoted a separate chapter to the issue ("The impact of AI on legal practice")[7]. That chapter highlights the specific areas that are worth exploring in more detail, such as subfields of research within AI that are more in focus for lawyers' everyday life, the general difficulties in applying AI tools to lawyers' work, and the opportunities seen in different tasks and process steps within the work of an "average" lawyer. However, the CCBE Considerations have identified that the most important aspect of AI to be studied in relation to lawyers is not simply how to approach certain technical problems, but how the technical changes to be expected will affect the rule of law through the changed operations of a lawyer, and how the core principles of the European legal profession can be preserved.

All the issues set out in the CCBE Considerations warrant further in-depth studies. The CCBE submitted some project proposals to the European Commission, and the Council of the European Union adopted a 2019-2023 Action Plan on European e-Justice with this project proposal considered for implementation.[8]

For this reason, based on the 2019-2023 Action Plan on European e-Justice and the call for proposals for action grants 2019 (JUST-AG-2019) to support transnational e-Justice projects, the CCBE and the

[1] (European Commission 2018) Citations refer to the entries in the bibliography in Annex 7: Bibliography of desk research (at the time of 01.15.2021). Citations to the Official Journal of the European Union are not included in the Bibliography.

[2] In this overview, legaltech simply means legal technology for lawyers or the market of such software (law firm specific software market).

[3] See Official Journal of the European Union, OJ C 96, 13.3.2019, p. 6

[4] See e.g. (Council of Bars and Law Societies of Europe 2005)

[55] See e.g. (Council of Bars and Law Societies of Europe 2017), (Council of Bars and Law Societies of Europe 2018a), (Wickers 2019).

[6] See at (Council of Bars and Law Societies of Europe, 2020)

[7] See The impact of AI on legal practice and also see separately section 4.7 on the use of AI by lawyers and defense counsels in the criminal justice systems (Council of Bars and Law Societies of Europe 2020).

[8] See project number 11 in "2019-2023 Action Plan European e-Justice" in OJ C 96, 13.3.2019, p. 17.

European Lawyers Foundation (ELF) submitted a project proposal on Artificial Intelligence for Lawyers (AI4Lawyers).[9] The CCBE and ELF were awarded an EU Grant to implement that project.

The project targets the necessity for European lawyers and law firms to have a clear understanding of the use of AI and other novel IT technologies in their daily practice. The project's main aim is threefold: (a) to create an overview of the average state of the art of the IT capabilities of lawyers and small law firms in the EU, (b) to identify the opportunities and barriers in the use of natural language processing tools in SME law practices, (c) the drafting of a guide on the use of AI by lawyers and law firms in the EU.

The project started on 1st April 2020 and runs for 24 months (i.e. until 31st March 2022). The core project team consists of chairs of the Future of the Legal Profession and Legal Services Committee and the IT Law Committee of the CCBE, four delegated experts from the said committees, staff, and employees from CCBE and ELF and two subcontracted experts, one IT specialist expert and one subject matter expert. Besides the core team, the relevant CCBE committees are constantly informed of the draft deliverables. There are three phases of the project, based on the separate objectives:

1. Overview on average state of the art IT capabilities and comparison with best practices United Kingdom, USA and Canada

2. Report on opportunities and barriers in the use of natural language processing tools in SME law practices

3. Guide on the use of AI by lawyers and law firms in the EU

2 Structure of the overview and explanations on the focus of research

This overview contains a summary of the activities carried out during phase 1 (1st April 2020-28th February 2021) of the AI4Lawyers project, an abstract of the results of the research (the questionnaire, the expert interviews and the related desk research), and the comparison with some non-EU countries as well.

Following the description of Phase 1 of the project (see section 2.1), this part of the overview continues with some explanations of the decisions made during planning the research, such as why we focus on small law firms, while obviously most of the novel legal technologies today are used by the largest law firms.

Following the explanations, we provide a concise summary of the questions and the answers provided by the respondents (see section 3). The full questions are listed in Annex 1: List of full questions.[10] The answers appear in a more detailed format in a separate, anonymised Excel file as well in Annex 2: Overview of all separate answers to this overview.[11]

The next section (section 4) contains a brief summary of the conclusions drawn from results of the interviews with non-EU countries and the related desk research, for the purposes of comparing the findings inside and outside the EU.

Based on the research carried out in Phase 1, we also made some general observations that are not yet included in this overview, but are recored in a separate working document that may serve as a basis for further discussions by the relevant committees of CCBE or may serve as a framework for

[9] This short title has been used for the project since May 2019. Not to be confused with e.g. the project of the University of Oxford, called AI4LAW (used at least since around the same time). The projects are not related.
[10] The explanatory comments included in the questionnaire are not repeated in the annex, they are only included only as part of the project file
[11] The full answers are retained in the project only, not repeated here.

further research (such as hypotheses to be refuted or confirmed during Phase 2 and Phase 3 or for any research beyond the AI4Lawyers project).

2.1 Summary of activities carried out in relation to phase 1

Phase 1 was divided into various activities. The first activity was the production of a **questionnaire** for 10 selected target Member States of the European Union (Austria, Belgium, Czech Republic, Estonia, France, Germany, Hungary, Italy, Spain and The Netherlands, which finally was replaced by Ireland). The questionnaire (see section 2.2.3 and Annex 1: List of full questions) was reviewed by core team members and submitted to the contact persons of the 9 selected target countries, and one expert was interviewed for Ireland. The questionnaire was also used for explaining and documenting the most important decisions in relation to the terminology and the questions asked (see section 2.2).

The **answers to the questionnaire** formed the basis of mapping the IT capabilities of small law practices in these Member States. The responses were used to identify the magnitude of differences in the role and technical capabilities of lawyers within the EU and to compare these differences to those in the US and the UK. The main objective of conducting expert interviews by way of the questionnaire was to make use of CCBE's unique ability to reach out to national experts and get a first-hand response from them and use these as a source for the observations.

During the drafting and approval of the questionnaire and the collection of answers, we started collecting a **bibliography** of relevant publications in the participating countries and in the US and UK. The publications thus collected served as the subject of the **desk research** undertaken in Phase 1.[12]

Following the receipt of the answers to the questionnaire, we conducted interviews with experts from non-EU countries to gather data for the comparison of the results of the EU countries and the related gap analysis on the IT capabilities of EU lawyers (see section 4). Also for the gap analysis, we carried out some research in statistical data available for supporting the comparison. The interviews conducted in relation to non-EU countries are listed in Annex 6: Summary of the interviews.

with a short summary of the results of each interview.

2.2 Explanations on definitions and approaches used in the research

2.2.1 What is a law firm?

The term lawyer is defined by the Lawyers' Services Directive[13] as any person entitled to pursue his or her “professional activities” under any of the titles listed in the directive, such as advocat, barrister, Rechtsanwalt, ügyvéd etc. Lawyers may practice either as individuals (in a solo practice) or in what is called a joint law practice (see the latter in Establishment Directive[14] 1 e)). A joint law practice may take any form defined in the applicable national rules on lawyers, which could either be completely without any separate form of legal (judicial) personality or could have a separate legal personality only for tax purposes or a full legal personality and limited liability for its owners[15] or even a specific business structure in which only lawyers may participate for the sole purpose of carrying out their professional activities as lawyers.[16]

[12] See Annex 7: Bibliography of desk research (at the time of 01.15.2021)
[13] Council Directive 77/249/EEC of 22 March 1977 to facilitate the effective exercise by lawyers of freedom to provide services, https://eur-lex.europa.eu/eli/dir/1977/249/2013-07-01
[14] Directive 98/5/EC of the European Parliament and of the Council of 16 February 1998 to facilitate practice of the profession of lawyer on a permanent basis in a Member State other than that in which the qualification was obtained: https://eur-lex.europa.eu/eli/dir/1998/5/oj
[15] E.g. a corporation or a limited liability partnership.
[16] Such as l’association d’avocats or ügyvédi iroda etc.

We use the term law firms as referring to both types of practice, regardless of the latter having any legal personhood in any branches of law in a given country.

It is important to point out that despite the normative definition above, available statistical data used in this overview (see sections 2.2.2 and 4) do not reflect this definition. Due to the high level of our overview comparing such diverse areas as the EU, UK, USA and Canada, it was not possible or feasible to drill down to this level of detail and to filter out from Eurostat data enterprises that even though they report under NACE 691 are not listed in the Lawyers' Service Directive.[17] Also, for data for comparison between USA, Canada and the EU, the Lawyers' Services Directive is obviously not usable, so we simply had to rely on the terms used in the available statistical data while trying to understand and identify the differences (see section 4 and Annex 3: Statistical data for USA-EU-UK comparisons).

2.2.2 Why small law firms only?

Generally speaking, small and medium enterprise (SMEs) are often undervalued in terms of their economic significance. The OECD has reported that in OECD countries "*SMEs account for 99% of all businesses and between 50% and 60% of value added. Almost one person out of three is employed in a micro firm with less than 10 employees and two out of three in an SME*."[18] The OECD highlights that legal activities are dominated by small businesses: "*nonetheless, some knowledge-intensive services can be dominated by small businesses. This is the case in advertising, market research and other professional, scientific and technical activities, as well as legal, accounting and management services*."

In relation to the use of new legal technology, there seems to be a very stark contrast between what kind of law firms are most visible[19] and what kind of law firms operate in the largest numbers in the EU.[20]

Large law firms not only have a bigger budget for IT spending, but they also have much larger needs for IT due to requirements of better governance of a more complicated operational structure. They involve a higher number of expensive professional people, and therefore there exists a larger commercial incentive on their behalf for automation. Even for these purposes alone, the largest of the law firms have strong motivations and plenty of resources to try out "new things" in the provision of legal services. This also has a public relations perspective, because most of the legaltech news usually revolves around a large firm advertising some of their new ventures, start-ups or technical tools.

Eurostat data clearly confirm what the OECD says. For the legal industry (for the enterprises included in the NACE 69.10[21] category), the total number of law firms (and other enterprises within 69.10) with

[17] See note 13.
[18] (OECD 2019)
[19] See also news sources listed in note 33.
[20] E.g. (Sechooler 2008)
[21] NACE defines 69.10 legal activities as slightly wider than the definition of law firm above, including e.g. notaries and bailiffs etc. ("This class includes: —legal representation of one party's interest against another party, whether or not before courts or other judicial bodies by, or under supervision of, persons who are members of the bar: - advice and representation in civil cases - advice and representation in criminal cases - advice and representation in connection with labour disputes —general counselling and advising, preparation of legal documents: - articles of incorporation, partnership agreements or similar documents in connection with company formation - patents and copyrights - preparation of deeds, wills, trusts etc. —other activities of notaries public, civil law notaries, bailiffs, arbitrators, examiners and referees." Considering that we take a look at EU(27), we have to be mindful of the national differences. While e.g. in Hungary, 95% of 69.10 enterprises are lawyers (as defined above, thus, excluding civil law public notaries), the situation is different in other countries, but usually above 90%. However, revenue share between legal professionals within 69.10 may be a lot different from country to country (e.g. only 40-50% of the total revenue of 69.10 going to law firms).

more than 250+ employees were around 0.01781% of all the law firms (not counting the UK),[22] the share in employment was 5.72%, in turnover, 12.57%.[23] For micro enterprises (0-9 employees), the same figures were 97.51% of enterprises, 70.80% for persons employed and 53.21% for their share of turnover.

The same figures for the UK are markedly different: for large enterprises, the figures are 0.4714% of all the enterprises, 35.69% is the ratio for the persons employed, 49.294% for turnover, and at the same time, micro enterprises take up 86.53% of enterprises, 12.25% of employment and 14.96% of turnover.

This data and the more detailed analysis in Annex 3: Statistical data for USA-EU-UK comparisons shows that compared to the UK (and the USA), law firms in the EU work in a considerably smaller operational size. This has many consequences. Any further problems that arise from these special characteristics of law firms in the EU will have to be somehow managed at the EU level, and it is not necessarily true that solutions worked out for law firms in the UK and USA will also be suitable to solve problems of EU law firms. Therefore, in relation to economic analysis on the operations of law firms, one has to be cautious in using any conclusions drawn from the UK, since they may be misleading for EU law firms.[24]

We do not focus on small law firms because, compared to large firms, they are more important in terms of the economy or in the task of supporting the rule of law. We focus on this size class of law firms because a very large ratio of law practices in the EU face the same type of challenges of not having a considerable IT budget, not having access to consultants, but being required to use more and more IT tools.

This requirement to use IT tools may be an internal pressure of trying to become more efficient with the current tools available or may be external such as from clients requiring them to communicate in a given way, or a new e-government initiative making it mandatory for them to give up tried and tested, decades long methods of operation on paper.

Even within the EU definition of micro, small and medium-sized enterprises,[25] there are huge differences between the smallest of the law firms, solo practitioners with zero employees, and medium enterprises. The more employees there are, the more complex the administrative operation of a law firm becomes, with more internal opportunities for automation and bigger budgets for implementing IT solutions. Considering the number of legal enterprises with less then 10 employees, we have tried to focus on law firms with the number of persons employed being between 0 and 9 employees.

At the same time, we thought that restricting the scope to solo law firms would be counter-productive, because that way important aspects of lawyers interacting internally with another lawyer would be completely left out of the survey. In relation to the size of firms and confirming that the most important factor is the number of employees, we would like to refer to the quote in 4.2.1, because that statement seems to be true outside the UK as well: "*When you get to the upper end, like 9 users, the needs seem to change a little. […] they start to have pockets/departments within the large law firms, and breaking off, having their own operations, demerge etc. At this size, the law firms may want to track their*

[22] Although we have used statistical data from Eurostat for 2018, no data for the UK was taken into account in this overview when talking about EU.

[23] Figures used are from the corrected table, see Annex 4: Underlying data including corrections and cross-checks.

[24] This overview is not doing any economic analysis of legal services. For that purposes, see (Yarrow and Decker 2012)

[25] Commission Recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises, OJ L 124, 20.5.2003, p. 36–41

revenue by branch or location. When you get to this 9 users law firm, they start to need more than what the most basic cloud systems may offer."

Therefore, the term "number of persons employed" has an economic meaning that relates to the complexity of law firm operations, and it should not be interpreted in a strict legal sense. The number of employees covers both lawyers and also permanent non-lawyer staff, not only fee-earners etc.

We have to draw attention to the fact that the Eurostat data as used above is probably unable to show some operational structure in law firms that may be present and that could be important in terms of the IT tools used by lawyers. Similar to the long-standing operation of barristers' chambers in England and Wales or the services of the Faculty of Advocates for advocates in Scotland, lawyers may use cost centres or buying groups that have a considerable effect on what IT tools a lawyer is using (see section 4.1 in more detail). Similar structures may exist in other EU countries, but probably lack the history of their counterparts in the UK. No such structures were taken into account for the EU in the analysis.

The OECD also reiterates that "*SMEs lag in digitalisation. Digital diffusion tends to be lower in smaller firms. These firms also face more difficulties in undertaking the complementary investments in skills and organisational changes that are needed to adopt and benefit from technology*."[26] We believe this statement confirms the importance of this overview.

2.2.3 Differences in the operations of law firms across Europe

Even based on the definition of a law firm (2.2.1.), one can see that there are considerable differences in how law firms work even within a single country, and within what legal structure they operate.[27] This is confirmed by economic literature[28], and more detail is available in regulatory reports.[29] In all EU countries, the regulation, the operation, and the economic focus of law firms is often based on centuries of tradition, adapted to the organic development of the courts and the customary ways citizens try to access justice. Harmonisation in this area by the EU is only intended to be partial.[30]

In the questionnaire, we tried to find further relevant categories within small law firms in terms of differences in focus, in areas of law or revenue. We also wanted to validate if this diversity of operation of law firms is also true for the IT tools used by small law firms: are there any categories of small law firms in each country that have very different IT capabilities?

2.2.4 Reasons for avoiding large scale interviews with lawyers for the research

As can be seen from section 3, the subject matter of the questionnaire covered rather diverse and complex questions, both thoroughly technical questions (e.g. percentage of servers used) and questions that require an intimate knowledge of how lawyers operate in a given country (such as dominant activities of lawyers per country in terms of income, administrative burdens of lawyers, e-court uses etc.) Based on past experience within the CCBE, it did not seem to be a feasible approach to target individual lawyers in all 10 target Member States in this project. Therefore, the questionnaire did not intend to collect quantitative data in a statistically relevant way, by asking a large number of lawyers from each of the 10 target Member States. Instead, we decided to rely on expert advice from those Member States. The expert opinion received from a country may have been based both on the expert's own judgement and on surveys they may have previously carried out in that bar association

[26] See (OECD 2019, p. 8).
[27] E.g. a split profession such as solicitors and barristers in Ireland, procurators and advocates in Spain or Italy, or similar divisions such as avocat à la Cour and aux conseils in France etc.
[28] See (Yarrow and Decker 2012, 32-33) sections 87-91
[29] See the (Panteia, Maastricht University 2012), table 2.1.2.
[30] See the result of the research available at (AVOCATS.BE 2013)

or law society. However, experts were invited to include other experts in their work and were given freedom to decide in which fields they wanted to involve other experts from the same Member State.

For this reason, the responses cannot be seen as statistically relevant, which in any case was not the purpose. There were still good reasons to carry on with this kind of approach. There are no existing, published materials in the target Member States on these issues that could serve as a basis for desk research. Up-to-date quantitative research covering the most important questions is only available in the United States[31] (ABA LegalTech Report 2020, see section 4). Considering the questions to be asked, national surveys undertaken in this area in the 10 countries seem to be non-existent or limited in access. Without underlying data for the target countries, it would be tempting to rely on conclusions already drawn in studies made in non-EU countries, where both the role of the lawyer is different and the relevant markets[32] are structurally different. Most popular legaltech news sources[33] are English-language websites or news aggregators, aimed mostly at non-EU lawyers, which inadvertently introduces a bias in showing the opportunities for the average lawyer in legal technologies.

3 The questionnaire and summary of the answers to the questionnaire

The responses to the questionnaire of 31st August 2020 were received by 24th October 2020. A further round of clarification was started on 28th October 2020, and the last answer to that clarification was received by 11th November 2020.[34] We had an interview for the answers related to Ireland on 14th December 2020.

In this section, we provide a summary of the answers based on the ordinal number of the question asked. With regard to the individual summaries, for question 1.9.1-1.9.3. (e.g. "Can you please provide us with a brief, high level overview of the electronic court procedures available …" and for the questions related to product names such as in 1.5.7, 1.7.1 etc.), there was no point in comparing values for each with other countries. Comparison with non-EU countries is included in section 4.

The following section gives a more detailed overview of the responses for each question. The starting parentheses indicates the question number in the questionnaire (attached to this document as Annex I). Sub-questions within a given question are shown with a capital letter (e.g. 1.3.1. A) or B) etc.).

For brevity, specific countries are mentioned based on their two letter ISO 3166 country codes where they appear as part of a list only, when there is no emphasis on describing the situation in the given country. Otherwise, full country names are used.

1.3.1 Different categories of law firms in terms of IT capabilities

Two countries replied that they do not perceive different categories of small firms in their country in terms of IT capabilities that are worth mentioning (AT, DE). All other countries stated that, even within small law firms, there are considerable differences. The most frequent categorisations were: generalist lawyers vs. specialised or boutique law practices; whether the clientele of a law firm was retail vs corporate clients; solo practitioners and others; defence lawyers; and also, lawyers building on the provision of services related to legal aid. Some experts highlighted differences in the technical

[31] (American Bar Association 2020a)

[32] The legal market and the software market aimed at lawyers.

[33] E.g. based on Alexa rankings, sites such as https://www.law.com/legaltechnews/, https://www.law360.com/technology, https://www.thelawyer.com/legal-tech/, https://www.artificiallawyer.com/, https://www.lawsitesblog.com/, etc.

[34] The full answers in their original form have been filed as project documentation; the clarified answers for the Czech Republic and Hungary have also been filed as project documentation. Other clarifications were carried out through email with the participating experts.

requirements of what small law firms have to use as a basis for their categorisation, such as better digitisation in civil court practice vs. criminal practice or specific areas.

The answers support the conclusion that, in most countries, there already exists a division between small law firms based on their IT capabilities. As one of the respondents said, even within small law firms, the size of the law firm is the most important aspect. The reason for this is the way IT supports business processes, and the complexity of business processes define the IT needs of a law practice.

Seeing IT capabilities of small law firms as an asset, the needs of clients also strongly define the IT capabilities of small law firms. This refers foremost to the technical requirements necessary for acting on behalf of clients in judicial and governmental processes, but also more indirect means as to what clients expect from lawyers in terms of communication.

1.4.1 General management related administrative burdens of small law firms

Among the general management related administrative burdens of law firms (that is, burdens that are not specific to legal practice), all the respondents highlighted accounting and invoicing (billing) as a considerable administrative burden. As for other burdens within the same category, document management was the second most mentioned obligation. In a broader sense, definition of document management may also include obligations related to the archiving of electronic records and documentation of cases carried out by lawyers. Diarising (also called calendaring in the US)[35] and time tracking as general obligations were also mentioned by several respondents. The collection of payment from clients was another important, non-sector specific obligation mentioned in many answers, as was the obligation of lawyers to keep track of certain data of their customers (as part of customer management or “client database”). Other burdensome general activities mentioned included marketing and subcontractor management or payment of court fees and related administration.

In summary, it is clear that accounting and tax related obligations for small law firms are generally considered as burdensome, with document management obligations next in line, and followed by diarising and time tracking responsibilities.

1.4.2 Possible IT support for general management of small law firms

In general, respondents also agreed that most administrative burdens can be alleviated by proper IT tools. In most countries, there already exist some IT tools that are able to do this. Based on answers to 1.6.2, we can say that accounting and invoicing related tools are usually integrated with law firm specific practice management tools, but not without exceptions. One respondent answered that the bar itself provides an IT tool for diarising related obligations of lawyers (FR). As for the proper level of intervention, the majority view was that such IT tools should be developed at the national level, while three respondents also mentioned that EU intervention could be beneficial for an EU-wide, uniform way of addressing problems (BE, CZ, ES), but many rules, especially rules on accounting and taxation, are so specific to national law that this level of intervention is not realistic in most cases. Other reasons mentioned for a national level of measures were the following: a) different languages as a barrier for measures taken at EU level , and b) lawyers depend on the development of software tools by national software providers.

In short, expert seem to agree on the approach that existing general administrative burdens can be alleviated by proper IT tools, but the efficient level of development of such tools seems to be at the national level.

[35] We have used the term "diarising" except when discussing the Report in section 4.2, where we use calendaring.

1.4.3 Dominant professional activities of small law firms

There does not seem to be a clear list of "dominant professional activities of small law firms" at EU level. The most common answer seems to be court litigation (including personal injury cases), criminal defence or general legal advice by law firms to clients. Replies mirror the categories from 1.3.1 as well (i.e. criminal practice, generalist law firms serving retail clients, boutique firms with specialised practice [BE, CZ, FR, HU, DE, IT], legal aid [FR, ES]). Certain respondents mentioned real estate related issues (conveyancing etc.) (CZ, HU, IE) or company formation (CZ, HU), but as we could see from section 2.2.3 it is a highly country specific question to what degree law firms may participate in such activities (e.g. in litigation only or also in registration etc). Other areas mentioned by more than one country were unpaid invoices or credit recovery, employment matters, family matters, contract drafting and preparation of other documents, tax and administrative law and more generic government related issues. There are single mentions of insurance law, liquidation, tenancy, inheritance, probate and wills.

Based on some answers, it would be tempting to say that the larger a Member State is, the stronger the specialisation of small law firms, and that in smaller countries, small law firms have less opportunity to focus on very specific areas of practice. However, due to the nature of the questionnaire, this is not a conclusion that can be drawn based on the answers themselves (it can be nothing more than e.g. the reiteration of a fundamental concept in economics or an intuition by one or more experts).

1.4.4 Professional activities of small law firms in which support of the activity by IT tools is important

A) Among the activities listed in the previous answer, which activities do you think need the most support by IT tools?

Among the professional activities of law firms, most but not all respondents mention that legal advice and legal research in general is in very strong need of IT support due to the use of legal databases. Several respondents highlighted that all areas of professional activity can profit from support by IT tools. Representation in court matters and involvement in other government related procedures were also mentioned as areas where support by IT tools is important.

B) Should these IT tools be developed at national level or below only or is there any possibility for EU level action?

Respondents agree that IT tools supporting the professional activities of law firms should generally be developed at the national level. But three respondents mentioned that there are areas where certain IT tool frameworks or standards and methodologies should be developed at the European level. The disadvantages of an EU level approach are the additional costs of integrating EU level solutions into national solutions, the need to change currently existing solutions just to harmonize with EU solutions. At the same time, an EU level approach might bring certain advantages, such as:

> a) the uniform application, the homogenisation of how tools work, especially with regard to already existing EU level initiatives (eIDAS, e-Evidence, eDelivery).
>
> b) an EU level approach could prevent lack of action or lack of adherence to certain standards by national governments and courts that also affect law firms, e.g. in areas of access to open data from courts, the required levels of standard in the testing of tools to be used by lawyers, management of incidents submitted by lawyers, transparent reporting of outages (which is critical for lawyers, but less critical for casual consumer users) etc.

C) Which are the areas where you think IT tools will not be able to make a difference?

A number of answers mentioned that individual and strategic counselling, traditional oral consultations, drawing up of skeleton arguments by lawyers or defence activities usually do not need considerable support by IT tools outside legal research (e.g. IE, CZ, ES).

1.5.1 Desktop vs. laptops as primary work devices

Slightly more respondents were of the view that small law firms currently use desktop computers as their primary work devices or that the ratio is slightly more for desktops, the minority view being that laptop computers are already used primarily. But respondents were unanimous in that desktops are being replaced more and more by laptops and other mobile devices. Two respondents highlighted that the role of cloud computing is increasing as the main place of storage even for primary work devices.[36]

One of the respondents summarised this by saying "mobility is now a priority and will be during the next years", which is also reflected in the other answers related to mobility of primary work devices.

1.5.2 Current use of mobile phones and tablets by small law firms for work activities

In relation to the question of what kind of functions lawyers currently use (non-laptop) in mobile devices, all respondents mentioned e-mail or other communication, and almost as high a number of answers mentioned diarising and "quick" legal research. Reading of documents (and browsing) during court sessions and dictation software was also a widely adopted use of such mobile devices. Two respondents mentioned taking of evidence by mobile devices and also video conferencing by mobile devices. Fee calculation and task management was mentioned by one respondent.

1.5.3 Expected future uses of mobile devices, and competition with current primary work devices

A) Do you see any new type use for mobile devices (that are not laptops) that might increase in the foreseeable future?

In relation to the future of mobile devices, smartphones and tablets were mentioned by many respondents. One further expert referred to smart watches. One respondent referred to the use of laptops augmented by smartphone type of devices. No other wearables or mobile IoT devices were mentioned.

As regards the future uses of mobile devices by lawyers, the answers were very diverse, but several respondents mentioned smartphones to be used as secure devices for creation of electronic signature, for payment or for making communication more secure. Besides the security token function of such devices ("something to have"), reference was made to voice-based agents as well, which could cover many future uses of such mobile devices, building on non-traditional input methods (not based on laptop or desktop-oriented typing), such as digital taking of notes. Other future uses mentioned were substitution of carrying files to court hearings by having tablets in place for reading or researching law. New mobile devices were also seen as a possible new way (channel) to contact clients for the first time and for business negotiations.

B) Do you think that in the longer run, mobile devices might replace current primary work devices in certain areas? If yes, in what areas? If no, why not?

However, the majority of respondents do not see non-laptop mobile devices as a possible replacement for the current, primary work tools of lawyers (laptops and desktops). The reason is related to either the need for large screens or typing. One respondent even highlighted that mobile devices may be used as primary devices as long as they are docked to be able to provide such missing functions.

[36] Respondents were not asked to comment on deontological problems of the use of cloud computing.

That shows that the current workflow of lawyers is still very much document-centric at present and in 5-year term.

1.5.4 Server computers or appliances owned / dedicated for use by small law firms

As for dedicated servers, the estimates of the percentage of small law firms using them are rather diverse. The highest seems to be 90% (DE), the lowest seems to be around 20%-25% (IT, ES); other countries tend to give their estimates around 50% or slightly less. Two respondents highlighted that they are expecting that the trend is clearly decreasing with more and more lawyers using cloud services in place of local servers. In some of the countries, there still seems to be at least a bar recommendation on not using hosting data centres or cloud services.

1.5.5 Using data centres for offsite operations by law firms

A) Do you think small law firms would be willing to move offsite all the data they currently hold at their premises to a dedicated storage in a secure environment?

The majority of responders think that law firms are willing to use data centres for offsite operations, while three respondents expressed either negative views or that lawyers would do so only with some reluctance. As to the reasons for such reluctance, answers to 1.5.5 B) give a wider overview.

B) What would be the major factors in considering such a decision?

The major factors in considering the movement of lawyers' data from their own office to a dedicated facility (data centre) as listed in the answers are the following (listed in the order of number of answers):

- pricing of the service compared to the costs of on-premises data storage;

- data security and data protection issues, including clear position on the ownership of data stored at the cloud service provider;

- deontological guidance and bar support of such transfer;

- easy access and availability of data (including the guaranteed ability to transfer stored data back to own systems or to other providers at any time without technical problems);

- trust in the third-party provider, including ownership of the data centre (transparency of provider);

- vendor lock-in;

- resistance from clients;

- stable internet connection (both on premise and at the data centre).

Another respondent answered that such transfer of data may also be hindered by difficulties in lawyers' changing habits, or by lawyers already having on-premise server equipment.

See also the answers to 1.5.6 B)

1.5.6 Non-legal specific internet and web services used by small law firms

A) Of the following types of services, which type do you think small law firms use for supporting their professional activities?

With regard to non-legal specific public cloud services (internet and web services), the smallest common denominator was the use of use e-mail services and electronic storage of both client files (extranet) and internal office data (such as records of employees). Collaboration tools (such as SharePoint) and online storage of backup of IT data also appeared in most of the answers. Three respondents mentioned all of the services listed.

Most experts did not mention products by names, but where products were named, they were the following: OneDrive, Dropbox, Google Suite.[37]

B) If any such use as listed above is prohibited or regulated in your country, please indicate this below.

In a number of countries, such use of public cloud services is limited by special provisions. In Germany, additional agreements need to be in place with the provider, such as the lawyer notifying the provider about the criminal consequences of a breach of duty and the requirements related to subcontractors etc (§ 43e of Berufsordnung für Rechtsanwälte as a statutory act or see requirements in § 2 of the code of conduct, Berufsordnung für Rechtsanwälte). Other countries have similar requirements in place besides GDPR Article 28, such as bar guidelines (§ 40 para (3) of Richtlinien für die Ausübung des Rechtsanwaltsberufes in Austria). In France, recommendations are issued by the bars, and the bars themselves arrange for the provision of some services (subset of tools) to small law firms. In Italy, lawyers have to use a registered electronic mail account and communicate it to the bar association concerned.

1.5.7 Document management solutions used

A) Do you know any document management solution that is used by law firms to store client files? What is the minimum size of a law firm where you think such tools are used?
B) Can you name some of the most popular document management solutions used by small law firms in your country?

Except for one, all the document management solutions mentioned by experts for small law firms in their countries were integrated software having some document management capabilities, that is, practice management software (the category name is not standardised, sometimes people mean the same things under case management software, and sometimes for small law firms, the same practice management functionality is also called in the same way as Enterprise Resource Planning (ERP) or customer relationship management software (CRMs)[38]). That also means that small law firms do not use any document management solutions separately, only as part of more integrated software.

Five respondents expressly mentioned that this software may already be used by solo firms as well, and product offerings target small law firms as well. No respondent provided an estimate of the percentage of small law firms using such software, but two respondents seemed to confirm that it is the bigger end of the scale of small law firms that tend to rely on this software (BE, CZ). Another respondent mentioned also that the document management features of practice management software tend to be rudimentary.

With the exception of Hungary, the scope of document management solutions reported was exactly the same as the products listed in the answer for practice management software (1.7.1). The document management solutions mentioned are shown in a separate table in Annex 5: List of the practice management software products mentioned for EU countries.

[37] It was not specified in the answers how exactly these tools are used – lawyers have to be aware that deontological and data protection rules would usually need to be taken into account when using these services.
[38] There is no authoritative definition of ERP or CRM, and how they exactly fit among management information systems in businesses, their meaning changes with time as is the case with all buzzwords. Simply put, CRM is usually focusing on the business sales processes, while ERP now usually refers to a more integrative software between different business processes (like manufacturing, supply chain management and accounting, payroll etc.) See also section 4.3.1.

C) If a small law firm is not using a specific document management software, what kind of substitutes do they use (e.g. SharePoint based solutions, file-based storage etc.)?

The answer for the substitution of document management solutions used by small law firms was predominantly "file-based storage". Some specific cloud-based solutions were also mentioned by name: Dropbox, Google Docs, Nextcloud, OneDrive, Google Drive, Box or SharePoint.[39]

1.5.8 Remote access to the law office

In relation to the remote access questions, the dominant answer was VPN connection services, with three mentions of TeamViewer. LogMeIn and AnyDesk were mentioned once each.

1.6 Time and billing and accounting software used by small law firms

1.6.1 Specific time recording software

A) How often do small law firms use specific time recording software for recording time worked for clients?

One respondent gave an answer that time tracking software is "mostly" used by small law firms; for another country, the estimate was 50%; but the majority of answers refer to rare use of such software. Most law firms do not use specific software for time recording, either due to the majority of their work not being based on time spent (e.g. due to legal aid or statutory reasons in DE), or due to not requiring specific software for such use (see the answer for B) below). Four respondents mentioned that if lawyers use such software, a time tracking functionality is included in practice management or ERP software and lawyers use that kind of solution.

B) Are these tools specifically made for legal use or are they shared by other professions as well?

The most frequent answer to this question was that most of the time tracking software is specific for legal use (5 countries), but not all of them (e.g. ES).

C) Could you name some of the most popular software or services used for time recording?

As referred to in A), mostly the time tracking functionality is included in practice management software, but standalone software was mentioned in the Czech Republic (MarkTime) or Hungary (ManicTime).

D) For those small law firms not using time recording software, could you please specify what kind of more generic IT tools lawyers use to record such information (e.g. Excel, text files, Access databases etc.).

Small law firms not using specific time recording software use Excel files (6 mentions), text or Word documents for recording information like the time spent on a matter.

1.6.2 Accounting and billing software

A) How often do small law firms use software for issuing VAT invoices? Besides invoicing, how often do small law firms use software internally that covers other activities of accounting and billing?

As for software used for issuing VAT invoices, all respondents said that almost all small law firms use software for such tasks. However, in a number of countries (CZ, ES, HU), only larger law firms (e.g. not small law firms) usually use specific software for accounting purposes besides invoicing. For five respondents (DE, AT, FR, IT, BE) the wider accounting and billing software is contained as part of the integrated software solutions mentioned above.

[39] See the note under 37 that applies to this answer as well.

B) When small law firms use such billing software besides invoicing, what kind of activities does the software cover?

With regard to the question of what kind of activities the accounting software covers (going beyond invoicing), most respondents referred to practice management functionalities. As part of these extra functions the following are mentioned: time recording, CRM, collecting and cash flow overview, record payment data, statistics, administration of employees' activities and efficiency, administration of costs to be transferred to the client (notary fees, state fees, paid extracts from registers), workflow and work management, budgets, profit management, calculations and records of the work done, human resources management, document management solutions, deadline management, electronic legal communication with courts.

C) Are these billing solutions used also by other professions or are these mainly lawyer specific?

Two countries responded that invoicing software used in that country is not lawyer specific. All other respondents were of the view that the invoicing software is mostly lawyer specific (practically, the same countries that considered practice management software covering accounting functionality as well). In France, the answer differentiated in this regard: ERP (which we call practice management software) is specific to lawyers, while non-ERP accounting software used in France is not lawyer specific. In Germany, the answer also mentioned that practice management software usually also covers similar legal professions, such as notaries, tax advisors, and patent lawyers.

1.7.1 Popularity of integrated, law firm specific software (including case management and practice management, ERP and CRM software)

A) What proportion of small law firms use integrated case or practice management software (including ERP, CRM software)?

In relation to the proportion of small firms using practice management software, the highest estimated amount seems to be that of Austria (almost anyone, ~70%), Germany (80%) and France (75% of all small firms, even 20% of solo practitioners). For the rest, it is “less than a majority”, but still seems to be a high figure for Belgium, France, Italy (40%-50%) and Czech Republic (30%-50%). It is slightly less for Estonia (“rather a minority”) and Spain (25%). It is particularly low for Hungary (10% of all users). This shows that there is a strong division between countries in this regard.

B) Can you name the most popular software titles or services in this field in your country as used by small law firms?

See the table under Annex 5: List of the practice management software products mentioned for EU countries for a more detailed analysis.

C) Are these products web-based products? Does such software used by law firms cover other categories of software listed above (e.g. time recording software, billing, document management etc.)?

Some of the practice management software is web-based, some not, and it is interesting to note that in countries with limitations on the cloud storage of lawyers’ data, there seem to exist external data storage options even with web-based software.

Integrated practice management software usually covers functionalities like deadline management (diarising), accounting/billing, time recording, electronic communication with courts, case management, document management and document assembly functionalities.

1.7.2 Administrative burdens of law firms in relation to court cases

A) Are small law firms required to keep an up-to-date registry of the court cases in which they participate? If yes, is this requirement based on generic due care of the law firm or are there specific legal requirements or rules of professional conduct that make this mandatory?

With regard to the administrative burden on lawyers in relation to court cases, in a couple of countries there exists a specific obligation on the lawyer to keep an up-to-date list of matters in which they act (EE, DE, IT, HU). However, a number of other countries also have specific obligations in place requiring the lawyer to maintain the files of the case in order (AT, BE, IT) or it is a part of the obligation of the lawyer to carry out due diligence in its management. Where such an obligation exists, lawyers are required to retain case related correspondence in historical order, or to separate identifiers for internal case identifiers, external (i.e. court) case identifiers, client's name, matter subject, date of retainer etc.

Regardless of having any such obligation in place or whether this is part of due diligence only, case management software seems to be effective in helping lawyers with related administrative obligations in all countries affected.

1.7.3 Integration of case management with e-court solutions

Case management software (including practice management software containing such integration) could theoretically be used to integrate with electronic court solutions as well, helping lawyers to carry out their duties. However, three of the 10 countries mentioned that there is no such integration in place at the moment (HU, ES and IE), while one country mentioned that there is some integration, but that it is not effective (CZ). Other countries reported existing and much used integration, or the availability of application programming interface (APIs) for integration (AT, BE, FR, DE, IT).

1.7.4 Integration of case and practice management software with external software

In relation to external software with which the case and practice management software is integrated in certain countries, the most frequently mentioned external software was time recording, invoicing and accounting (AT, CZ, BE, DE, IE) and dictation (AT, FR, DE). In Germany, integration with area-specific software (e.g. management of IP rights, IP search-software, specific research and databases etc.) was also mentioned.

1.8 Legal research tools used by small law firms and legal data accessible for lawyers

1.8.1 Freely accessible legal information used by small law firms [multichoice]

1.8.2 Legal information accessible from paid legal databases as used by law firms [multichoice]

1.8.3 Barriers to access to legal information for small law firms [text]

In every country examined, small law firms have free access to at least the following information (electronically):

a) national or regional legislation (normative acts of public bodies) in force

b) local legislation in force

c) individual decisions of courts or other public bodies.

That doesn't mean of course that all such information is fully available in all the countries, because almost all experts have mentioned that lower-level court decisions, local government legislation or decisions of specific government bodies are either not available at all, or they are just available for a considerable subscription fee, or they are only partly available (AT, BE, CZ, EE, HU, IT, ES).

In most countries, there are paid databases with legal textbooks, commentaries, articles from law reviews, legal journals, and often these databases not only have a wider coverage, but also better quality than open access databases. Almost all experts have mentioned that access to such data is

expensive or even not affordable for small law firms, and having a complete coverage of such input for legal work is not a viable option for small law firms.

1.9 Court specific tools used by small law firms (interfacing with national e-justice tools)

1.9.1 Short overview of electronic court procedures

In relation to the high-level overview of electronic court procedures of lawyers, in summary, there is a mandatory electronic communication in all countries, but electronic access to all files is not yet universal. This is possible in the majority of cases only in AT, EE, FR (where electronic access is provided), IT and ES, but it is not yet accessible universally in CZ, DE, HU, BE, IE. There are considerable differences in what kind of procedures are covered by the electronic system and whether the same system is used for electronic access. For instance, in Hungary, every type of procedure (government bodies, court etc.) is mandatorily carried out electronically for lawyers, mostly using similar government building blocks (but not in all cases, e.g. company court procedures are technically very different from other court procedures), or in Germany, where e.g. criminal proceedings are still excluded from electronic procedure, or in Austria, where non-court government bodies use electronic systems, but they use a different system (not the one called ERV).

Instead of a more detailed summary, we give a shortened version of the answers for each country.

AT: In Austria, the electronic communication service (ERV) is mandatory for all lawyers, court appointed experts and notaries to use in order to communicate with courts. The only exception is when it is technically impossible to use the ERV, e.g. loss of internet connection just before a deadline.

BE: In Belgium, communication of files and conclusions is normally done either through the system provided by the bar (https://dp-a.be/) or through an open citizen system (e-box). Part of the bankruptcy process is digitised trough the REGSOL system. In Belgium, law firms cannot access all the files electronically (including metadata) that they are able to access at the premises of the court. In those cases, law firms must consult files at the premises of the court or request a copy.

CZ: Every advocate in the Czech Republic can communicate with any court or administrative authority etc. by a databox but they can use paper documents too. In practice, it is much faster and cheaper to do so electronically. In some cases, the law obliges the advocates to use an electronic form (e.g. in electronic payment order proceedings, insolvency proceedings etc.).

Electronic access to court files is rather limited and only works in specific cases (commercial register, court hearing schedules). The Constitutional Court recently allowed advocates to access electronic files regarding in the case for which the advocate is a representative. In some cases, the police provides an advocate with the electronic file, but only basic information of the proceedings can be found (e.g. dates of rulings, hearings etc.). In insolvency proceedings the situation is different. The whole insolvency proceedings are public. Every ruling, information etc. about the proceedings is published in an "insolvency register". The courts are obliged to deliver its letters through "datová schránka".

DE: In Germany, the "besonderes elektronisches Anwaltspostfach" (beA) is operated by the German Federal Bar. It is mandatory in some courts and will become mandatory in all civil, labour, social, administrative and financial court proceedings as of 01.01.2022. The constitutional courts (Federal and State) and criminal court proceedings are excluded. There are separate central portals for the following applications:

– Commercial, Cooperative and Partnership Register: www.handelsregister.de, the automated judicial dunning procedure: www.mahngerichte.de

– The obligatory central electronic register of protective documents: https://www.zssr.justiz.de/

– electronic access to court files (https://www.akteneinsichtsportal.de/, but planned to be made accessible through beA in the future)

EE: In Estonia, the electronic file system was developed by the state, its use is mandatory for lawyers, and is available for all citizens as well (using a secure ID card or token). The system provides not only the possibility to communicate with the court securely, but also access to the full court file.[40]

ES: There are certain actions that require electronic filing of documents in specific justice programs, but this is not the case in all procedures. For example, in Spain there are certain actions that must be carried out by a procurator, while in labour matters it is, for example, the lawyer who must carry out such actions electronically. The use of such tools is usually mandatory, but you can have access to all kinds of documentation and data.

FR: In France, the RPVA (réseau privé virtuel des avocats) is a system that is used to access all civil courts of law, connected to the Ministry of Justice system (RPVJ). The use of RPVA is mandatory. There is also a tool for liaison with the administrative courts. It is mandatory, but not in commercial courts. The access to files at the premises of the court has disappeared as a consequence. Latest developments are related to criminal justice. There is a separate system to access administrative courts.

HU: Since 1st January 2018, it is mandatory for all law firms to participate electronically in every court procedure, without exceptions. (In civil cases, this became obligatory as from 2016). Law firms are able to access the full electronic file only for cases started after 1/1/2020, but there are some minor problems in its use at this moment. Since 1 January 2018, the same mandatory electronic procedure is required for every public administrative procedure as well when lawyers or businesses are involved (not for private persons).

IT: In Italy, it is mandatory to use electronic tools in civil court procedures for all firms; all firms have access to all the files electronically and also to a part of metadata. In criminal procedures, electronic tools are not common. Practice management software has built-in capabilities for this.

IE: Electronic communications with the court are planned, but not yet accessible for small law firms.

1.9.2 Sharing of responsibilities for IT tools in the use of electronic court procedures

A) Who is expected to do what in relation to IT tools used in the electronic court procedures?

1.9.3 Role of bars and law societies in electronic court procedures and in providing IT tools for lawyers

In relation to the sharing of responsibilities for developing different IT tools, and the role of bars in such matters, in most countries the e-court solutions are provided by the state (the government, ministries of justices or court registries.) The bars have a very strong and active role in FR, BE and DE. Nevertheless, bars still play important roles in other aspects of the provision of e-justice solutions in other countries, such as in verifying lawyers, facilitating their electronic access etc. (e.g. ES, HU etc.).

AT: The platform through which legal documents can be sent, the ERV, is run by a state authority ("Bundesrechenzentrum"). Different software providers can register themselves as a transmitting agency based on published criteria. Lawyers, private software providers and the state are represented in a common working group. In this forum, new ideas, wishes and upcoming developments are discussed, new projects are developed together. However, it is the private software companies (and the state) who are responsible for the development and maintenance of services and tools.

[40] See https://www.rik.ee/en/e-file and https://www.youtube.com/watch?v=ezQk8GCjNDE

BE: DPA system is developed and operated by the bars, but lawyers can use the citizen tool as well.

CZ: The state (by way of Czech Post) provides the tool for sending and receiving electronic documents, called a databox, but with the possibility for lawyers to use other tools provided by private providers as well (70% use this opportunity). The use of this tool is mandatory for both lawyers and companies and is optional for natural persons.

DE: The German Federal Bar operates the "besonderes elektronisches Anwaltspostfach" (www.bea-brak.de) and is involved, inter alia, in the work of the Federal-State-Commission for Information Technology in the Judiciary (Bund-Länder-Kommission für Informationstechnik in der Justiz, https://justiz.de/laender-bund-europa/BLK/index.php).

EE: Lawyers participated in the test period, and solutions were made mandatory only gradually.

ES: It is the state that provides these types of computer tools to communicate with the court. Bars provide their members with access to this type of tool. Tools are developed in cooperation with all parties involved, including bars.

IT: The state provides an API for e.g. submitting documents and publish documentation, and the software houses develop the related applications. On the other hand, the state also provides web interfaces for lawyers that lawyer end-users can also use directly. The Italian National Bar Council has an advisory role in case of changing electronic court procedures. Consultation takes place in the course of development, but the bar is not asked to develop the system or cooperate in its development. It seems it would be difficult for the state to involve bars before designing a solution.

HU: The public bodies are expected to provide simple smart forms for filing in all matters. The state provides the infrastructure for filing documents (based on the smart forms) to a specific public body, and for sending the documents from the public body to the lawyer. The state provides the accessibility of electronic files from courts. Bars provide some IT functions for lawyers: interface for registering client money escrow, interface for reviewing "education credit points", interface for bar related matters (e.g. registering new members, changes in data etc.). Everything else is provided by the lawyers. Having no considerable infrastructure of their own, bars are not deeply involved in the procedure, they are consulted only in mostly minor issues. Bars may usually submit observations after the system has become live.

B) What kind of tools are lawyers expected to have in order to use electronic court procedures?

The tools lawyers are expected to use for electronic court procedures are secure authentication devices and secure tools for delivery (like an e-signature and a registered electronic mail service, specific electronic filing systems or integrated software connecting to such filing systems).

AT: Lawyers have to use either WebERV or specific lawyers' software for filing. Integrated software used by lawyers for electronic court procedures provide extra functionality, including easier internal filing of court documents).

CZ: Databox or e-signature.

IT: Digital signature; certified e-mail.

DE: Lawyers are able to receive documents sent by the "besonderes elektronisches Anwaltspostfach" and – where mandatory – use this system for court filings.

ES: It depends on the region of the country, but in general terms, tools are required that enable a secure exchange of information between legal operators and judicial bodies.

FR: A lawyer with a computer and a word processor can use the RPVA. The functionalities of this software allow it to be used on its own; it works like a web browser and it is possible to complete all formalities online. Only the juridical acts themselves have to be drawn up separately.

HU: Qualified electronic signature, scanner for converting paper-based documents, able to use platform and smart form fillers provided by the state.

1.9.4 Electronic administrative procedures outside electronic court procedures

Question 1.9.4 was asked so as to identify non-court electronic administrative procedures that are important for small law firms in a given country, but where the situation was markedly different compared to electronic court procedures.

The answer for Italy mentioned that there are specific electronic administrative procedures in place, including for requesting documents or obtaining them electronically. The answer called attention to services connected to the Public Digital Identity System (ESID), which allows people to access online services of the Public Administration and also private companies with a single Digital Identity (username and password), which may be used both by computers, tablets and smartphones as well.

For Austria, it is important to see that most administrative authorities are not yet connected to the ERV.

With regard to France, the answer called attention to the difference between matters subject to the authority of the administrative courts and the Conseil d'État, so we included this response in section 1.9.1. as part of the e-court solutions.

For Hungary, the respondents mentioned that land registry procedures (which is important for lawyers) are not yet digitized (e.g. whenever there is any attachment to the submission, the submission has to be made on paper).

1.9.5 Issues when submitting documents or cases to courts or other administrative procedures electronically

With regard to major barriers that small law firms face in relation to electronic court and other generic administrative procedures when submitting a case or a document to the courts or other authorities, four respondents did not see any serious barriers (AT, FR, DE, CZ), with one seeing only perhaps fear of change and of digital tools (BE). Also for Belgium, another expert noted that the currently existing solutions are still rather expensive for small law firms.

For Estonia, the expert reported a smaller technical problem of interoperability of file formats in the procedure (not being able to submit certain file formats, such as Outlook e-mail, that needed to be scanned to a pdf file). For Spain, the expert reported technical problems such as crashes or platform failures. Hungary and Italy reported similar problems regarding the lack of interoperability. For Italy, due to the lack of interoperability, it seems very difficult to interact among offices, courts and authorities, because public offices, public bodies, courts and authorities use different electronic systems and software. Also for Italy, the expert reported that electronic systems are just an adaptation of the traditional document process and are not thought of consistently as a new IT process, from which certain hardships arise during their use (e.g. when a law firm has to transmit large quantities of documents).

Similarly, in Hungary, lots of different, non-harmonised interfaces exist with non-harmonised requirements, e.g. in payment of fees or in accepted document formats. The operation of electronic administrative procedures is very diverse within the public administration, and as a consequence law firms have to fill in gaps in the processes like a "human glue" between these public bodies.

1.9.6 Issues in receipt or responding to summonses in electronic court or similar procedures?

In relation to electronic summonses, six respondents did not report any serious barriers (AT, BE, CZ, EE, DE, IT). Cultural barriers and reluctance on behalf of lawyers (mostly those with the longest experience) were mentioned even among some of these six respondents (DE, IT). For France, it was reported that this part of the process is not yet digitised (still using bailiffs in this part of the court process). Electronic summonses are also not available in Ireland. In Hungary, it was mentioned that an important part of first summons (e.g. small payment orders) are still communicated on paper due to the fear of companies not checking their dedicated electronic "mailboxes" with sufficient frequency. For Spain, similarly to the previous question, the issues of internet crashes, platform failures and the use of devices not suitable for that kind of tool were mentioned.

1.9.7 Issues in online monitoring of electronic court or similar procedures?

The next question was about major barriers in the online monitoring of the stages of an electronic court proceeding. Here, experts from six countries reported issues. For the Czech Republic, the information published by courts is still very limited and general, and so not very informative. For administrative proceedings, monitoring only works in very limited cases. For France, it is problematic that the system used does not allow easy management of documents, because the mailboxes of the courts are unsuitable for this. As a consequence, exchanges of documents remain rigid. It is also reported that in many areas the responsible public bodies have not taken advantage of digitalisation to improve the monitoring of procedures, which continues to be done traditionally, and not treated as a real workflow. For Germany it was reported that hardly any courts have electronic files accessible for lawyers yet (see also 1.9.1), and also for Hungary, some technical problems in the access of electronic files were mentioned in relation to question 1.9.1. For Spain, platform failure and maintenance problems were mentioned.

1.10 Tools used for specific lawyer activities (outside representation of a client at ordinary courts)

1.10.1 Registration of land or real estate and related activities by small law firms

1.10.2 Company law related administrative activities by small law firms

1.10.3 Registration of ships or other vessels and related activities by small law firms

1.10.4 Registration of IP rights by small law firms

1.10.5 Any other observations in relation to "Tools used for specific lawyer activities"?

Question 1.10. intended to clarify whether specific types of IT tools exist in the given country that are widely used by lawyers outside representation of a client at ordinary courts. The special areas of activity included registration of land or real estate and related activities, company law related administrative activities, registration of ships or other vessels and related activities, and registration of IP rights. In many countries, these activities are traditionally not carried out by lawyers, but by notaries (e.g. in IT, BE, FR, DE), but in other countries (AT, CZ, HU), such activities form an important part of lawyers' activities. In the analysis, we do not go into details about electronic company search portals or registries available in a country, and we mention company related services only where lawyers (and not only notaries) actively participate in the registration of companies. For IP services, we will also not mention that in all countries, EUIPO and EPO services for filing are accessible to local lawyers as well.

For Austria, registration of land or real estate related activities and company law related activities are carried out electronically by way of the ERV system mentioned in 1.9.1. In the Czech Republic, for the same activities and also for IP rights, lawyers have to use an online system provided by the court or

the registry (and not software running on the computers of lawyers). This system makes it possible for lawyers to fill out electronic forms that can be submitted through the databox as detailed in 1.9.1 or by post. As for new opportunities in the Czech Republic, it was mentioned that more information could be provided to lawyers regarding the status of registration, and also, that in company law matters, notaries have recently received the right to directly edit information in the company register (which could also be made available to lawyers).

With regard to France, lawyers (avocats) are usually prohibited from communicating digitally with real estate offices, which is reserved for notaries. Avocats can access only cadastral maps online, just like any other citizen. French lawyers may also register companies online, but access to that is not free. Therefore, in many cases small firms continue to incorporate companies by traditional means. With regard to ships in France, there is a free online register for owners of pleasure crafts, but no special facilities for lawyers. For merchant ships, there is currently no electronic process. Trademark registrations are made online in France as well, but there are no special provisions of note for lawyers, they are treated like any other users.

In Germany, land registry access and filings are usually done by notaries, but this depends on the regulations of the respective federal state and the relevant authorities, and such activities by lawyers are increasing in number. For IP services, filings with the German Patent and Trademark Office (DPMA) are usually done by web service or a special software provided by the DPMA (such as DPMAdirektWeb or DPMAdirektPro). In addition, several providers offer a special IP management software for a fee, which also include predictive solutions, particularly in the field of trademark law. However, only very few (boutique) small law firms use such commercial solutions.

In relation to Hungary, we have also mentioned in 1.9.4 that even though land registry filings are very important for Hungarian lawyers, this activity is still paper-based but is intended to be digitised in the near term. Company law procedures are also digitised, there are a couple of special form filling software systems that enable the filing, but there are also freely accessible form filling solutions. IP rights registrations with the Hungarian authority (SZTNH) are fully digitised. Ship registry filings can be carried out electronically, but only very few lawyers work in this area.

In Italy, all the special activities are usually carried out by notaries. Lawyers may still be involved if the activity is related to a trial, in which case a lawyer will be using software provided by the ministry, filling out forms and saving the output to a data carrier such as a USB stick, and submitting it to the public office, or, in more limited cases, via electronic registered email.

In Spain, these special activities are carried out by lawyers in relation to IP rights only, where the OEPM (Oficina Española de Patentes y Marcas, Spanish Patent and Trademark Office) makes it possible to carry out procedures electronically.

1.11 Refining the results of the February 2020 Survey on AI use by the European Commission

1.11.1 With regard to the responses provided to the Commission for your country, do you wish to provide any reservations as to the accuracy of the responses, explanations for the results for your country or any further information you think would help in obtaining a better picture of the categories of AI tools used in your country?

1.11.2 What do you think the rate of AI use by lawyers would be for your country?

1.11.3 Based on categories of AI tools as used in the 2020 February EC Survey on AI use, how do you think the AI tool categories would rank in your country (1st: mostly used category etc.)?

There was a survey carried out by the European Commission among lawyers in the EU in certain countries on the use of AI tools in several Member States, the results of which were *not* incorporated into the next EU Justice Scoreboard due to the receipt of a limited number of responses from some Member States. For validation purposes, we have asked the national experts of those countries that

have received more than 20 responses whether they consider the results so far received as representative or not. All the responses of the experts unanimously believed that the survey is not representative, at least for small law firms, and contain overstatements on the use of AI by law firms (AT, BE, HU, IT).

Very few experts provided their opinion on the estimated rate of AI use by lawyers for the relevant countries, of course depending on the definition of AI itself. One answer was that AI operated legal search engines are widely used, but predictive systems (legal analysis, question answering systems, compliance, and due diligence, assisted e-discovery) are very rarely used by small firms at the moment. In relation to the results of the AI survey, for Belgium it was noted by the Belgian expert that a use rate of 15% (of all lawyers, not only small law firms) seemed rather high to the expert.

1.12 Barriers and opportunity in the use of certain categories of AI tools

In this question, we asked the experts' opinion with regard to specific categories of IT tools that are often called AI tools, if there are examples of such AI tools in their countries being used by small law firms, and whether such tools can be expected to be widely used by lawyers.

The categories used were the following:

A) Legal analysis (e.g. extracts/trends from past judgements)
B) Document automation (e.g. assembling first draft of contracts, forms or other submissions)
C) Advanced search (e.g. question-answering systems, semantic search engines)
D) Compliance and due diligence (such as finding missing or non-standard clauses in a large volume of documents)
E) Assisted e-discovery: reviewing a large body of electronic evidence
F) Automated filing of documents in internal systems of lawyer and case management (other than e-discovery)
G) AI assisted overview of the financial situation of a law firm and analysis of its business results (e.g. dashboard, key performance indicators such as amount of work in progress not invoiced yet etc.)

For most categories, the answer was that small law firms do not or rarely use such categories of tools. Relatively wide use of AI tools was reported for the category of legal analysis. For Belgium, Jura (Wolters Kluwer) and Strada (Larcier) were reported; for the Czech Republic, ASPI, Codexis and Beck Online services. For France, Predictice and Case Law Analytics were reported as found in some law firms, especially boutique firms, but their price range seems rather high for most small law firms.

For advanced search tools, for Belgium, Doctrine, Lex.be, Knowliah, Knowlex were mentioned as used by small law firms. For France, Juris Predis is mentioned as one of the most advanced research tools for case law, developed with the help of the Conference des Bâtonniers. In Hungary, although legal databases do exist and are widely used, they use only very limited NLP capabilities for search. Even though these tools are not expensive (e.g. lexpert.hu), small law firms do not really use them.

For the category of "internal filing" and "AI assisted overview of financial situation", where a specific tool was mentioned, that was the same practice management tool that has previously been mentioned in 1.5.7, 1.7.1 as well (BE, FR, DE, but further special software was mentioned in relation to Belgium: Lawbox and LegalPlace).

Use of assisted e-discovery tools in the Czech Republic was mentioned as well (without specific product name), but in relation to most European countries (including the jurisdictions within the UK), it is important to highlight that due to differences in procedural law, search tools may not be considered

as e-discovery tools at all in the United States, where the category name for this software type comes from and where most such software is sold.

In Estonia, xLaw software is used both for legal analysis and for document automation. Among document automation tools used by small law firms, ClauseBase was mentioned in relation to Belgium, a minor use was also reported in the Czech Republic and Hungary as well. For the latter, it was noted that these are mostly used only as part of the practice management software, with very basic automation capabilities (e.g. template filling), which is usually not considered as an "AI tool".

In relation to the barriers to use of AI tools by small firm lawyers, one of the experts made an observation that the costs of such tools and the lack of mass use (lack of data) makes it very difficult to estimate the use of such tools in the countries examined.

4 Summary of the results of the interviews and related desk research for non-EU countries

4.1 The interviews conducted and a summary of the interviews

Each interview is summed up in more detail in Annex 6: Summary of the interviews. In this section, we make some general observations in relation to the interviews and the specialties and peculiarities of each of the non-EU countries observed (United States of America, Canada and United Kingdom) compared to the results of the answers to the EU questionnaire, highlighting major differences identified.

Probably due to the very divergent nature of the USA as a legal market, we did not have the opportunity to have a direct interview with specific American lawyers on this subject. We have tried to make up for that by a) having an interview with a management consultant who knows the USA well through her work with US law firms, along with her work in the UK market as well (see section 10.3), and b) by researching and reviewing the results of the ABA 2020 Legal Technology Survey Report[41] (hereinafter: the "*Report*") and another handbook in the USA, the 2020 Solo and Small Law Firm Legal Technology Guide[42] (hereinafter: "*the Guide*").

Statistical data set out in Annex 3: Statistical data for USA-EU-UK comparisons also confirm the picture that especially England and Wales is second only to the USA worldwide[43] in terms of the size of legal services market and the export of legal services.[44] As detailed in 2.2.2, size and the economic weight of the classes of law firms in the UK is very different from that of the EU: while micro enterprises take up 86.53% of legal activities enterprises in the UK, they cover only 12.25% of employment and 14.96% of turnover of the sector there, which shows structurally important differences compared to the role of small law firms in the EU and even in the US. During the interviews (see section 10.3), one of the experts also mentioned that, compared to the US, lawyers in UK law firms seem to be more willing to form a common firm: "*[in the US]… they take an office with other lawyers, but they still have separate companies. They file their taxes as a sole trader, even if they present themselves as a team. While in the UK, people tend more to create new companies …*"

Based on the statistical data at our disposal, this statement seems also be true for most EU countries compared and for Ontario law firms.[45]

[41] (American Bar Association 2020a)
[42] (Nelson, Simek and Maschke 2020)
[43] See https://www.trade.gov/legal-services, (World Trade Organization 2010)
[44] (KPMG 2020, p. 36)
[45] See the footnote in the statistics of the Federation of Law Societies of Canada (Federation of Law Societies of Canada 2019) and also based on our interview (10.1).

What makes it even more interesting for the whole of the UK is that this concentration is true not only for solicitors and solicitor firms. Even barristers and advocates in the UK, who are almost all self-employed (e.g. 96% of English barristers), have a traditional way of coordinating their work which is otherwise not present in micro enterprises in other sectors and countries. These are chambers in England and Wales, or stables in Scotland (while these latter are different in many aspects from chambers). Chambers provide the administrative support of clerks and IT infrastructure for barristers, and thus chambers operate as a cost centre for barristers as well. For advocates in Scotland, it is the services of the Faculty of Advocate that provide some important aspects of their IT software, based on membership fees. Considering that chambers in England and Wales operate in sizes of 50-60-100 barristers, from this perspective, barristers working from chambers are not really micro enterprises, at least in terms of the operational complexities of their IT systems. Scottish advocates remain responsible for important IT services themselves, but the most complex of their IT back-office, the practice management (including accounting and invoicing), is taken care of for them by the Faculty of Advocates.

A similar kind of augmented cooperation (without a separate legal structure) is present in EU countries as well, even if there is no similar historical weight behind them such as behind the chambers etc.[46] National rules (including deontology) may not make it possible for certain categories of lawyers to cooperate in anything outside sole practitionership (such as e.g. for barristers in Ireland). As a consequence, these kinds of associations remain invisible if we look only at the statistics on the number of enterprises. However, this characteristic is not specific to law firms, because similar inaccuracies are present for all small and micro enterprises as well, depending on local tax, social security, and employment rules.

In terms of the UK, it is not only the economic weight of small law firms that is different. It is also worth mentioning that it has a vibrant market for software specific to law firms. The leading role of the UK in this regard seems probable, with a high number of recent mergers in the industry.[47] It is the only country where software publishers specialised in lawyers have a separate industry body (trade organisation),[48] which also shows a high degree of maturity of that market.

Of course, the total income from legal software in the US is probably much bigger than in the UK, and also the range of products available in the US market is bigger, but the differences in each jurisdiction in the US[49] means that the publishers have to spend more money on customisations there, with higher costs also present in other areas of the market.[50]

At the same time, compared to even a single state within the US, the business needs of smaller solicitor firms in England and Wales are more uniform, considering the smaller physical distances as well, and thus easier to serve and with a larger budget remaining for the publisher for new developments. Even if in New York state (together with the similar New Jersey state) there are more small law firms than in England and Wales, as we have heard during one of the interviews, that is not necessarily the most

[46] Such as the well-known forms of association like un associé / collaboration libérale in France, or the irodaközösség and iroda társulás in Hungary (meaning “community”, used for cost center type of collaboration only, or “association of law firms” covering sales/public relations type of cooperation – none of these forms has any separate legal personality in any branches of law, only the latter form is used, relatively rarely, 127 such association registered currently).
[47] See section 10.3.
[48] Legal Software Suppliers Association, https://www.lssa.co.uk/
[49] See section 10.3.
[50] See section 10.3.

important factor in the strength of the legal IT market. As long as UK small law firms have a stronger emphasis on compliance, the need and benefits of using IT solutions for lawyers are increased.

We did not have access to information on the "law firm specific software market" (legaltech) for Canada, but the problems mentioned in relation to the access or use of practice management software (or just software in general) by small law firms in the US seem to be true for Canada. At least that's what our interview with Peter Aprile (Countertax) confirmed in relation to Ontario well.[51]

With regard to the USA, we will get into more detailed comparison in the next section (4.2).

We will present the gaps in the use of IT tools as identified in the last section, 4.3.

4.2 Comparison of data from the questionnaire, the ABA 2020 Legal Technology Survey Report, and the interviews

Based on the analysis set out in Annex 3: Statistical data for USA-EU-UK comparisons, here we simply state that the average operational size of law firms in the USA is larger than in the EU, but below that of the UK (in all indicators, that is, in number of firms in this size class, employment and in revenue share compared to that of larger law firms).

We shall review only those results of the Report that are similar to the questions asked in the questionnaire. The Report is made up of five different volumes per subject matter. For our questionnaire, the most relevant was volume III (law office technology), but all volumes were used in the comparison. In most tables, the answers were also specified by size class (per number of lawyers at all locations at the respondent).[52]

Based on the size classes reported for the demographics, we can see that the distribution of respondents to the Report is different from the distribution seen from Census Bureau statistics and the ABA law firm size statistics: small law firms are underrepresented, and larger firms are overrepresented in the Report.

4.2.1 Categories within small law firms in terms of IT capabilities

In relation to question 1.3.1 (Different categories of small law firms in terms of IT capabilities), the Report has no corresponding question. We should highlight here a quote from the interviews[53] about the difference between the smaller and wider end of the small firm definition: "*Now, the trend is more towards cloud-based technologies for sole practitioners, but also for firms of up to five employees. When you get to the upper end, like 9 users, the needs seem to change a little. […] they start to have pockets/departments within the large law firms […] When you get to this 9 users law firm, they start to need more than what the most basic cloud systems may offer. Like branch accounting, user defined fields and screens, which is not available with off-the-shelf systems. A lot of variation comes from the area of law they work in. […] Lot of contents, customisation comes from the specialisation of lawyers, which means that more complex systems needed by more complex practice areas, they need to differentiate the content. For example, if a firm does a lot of residential property – irrespective of its size - the document automatisation is really needed because these kinds of works are high volume, low value activities.*"

[51] See section 10.1.

[52] With size classes of Solo, 2-9, 10-49, 50-99, 100-499, 500 or more. We would like to emphasize that the small law firm definition we use is not based on the number of lawyers, but on the number of employees. However, we do not have quantitative analysis at all for the EU countries, so this remains a theoretical issue.

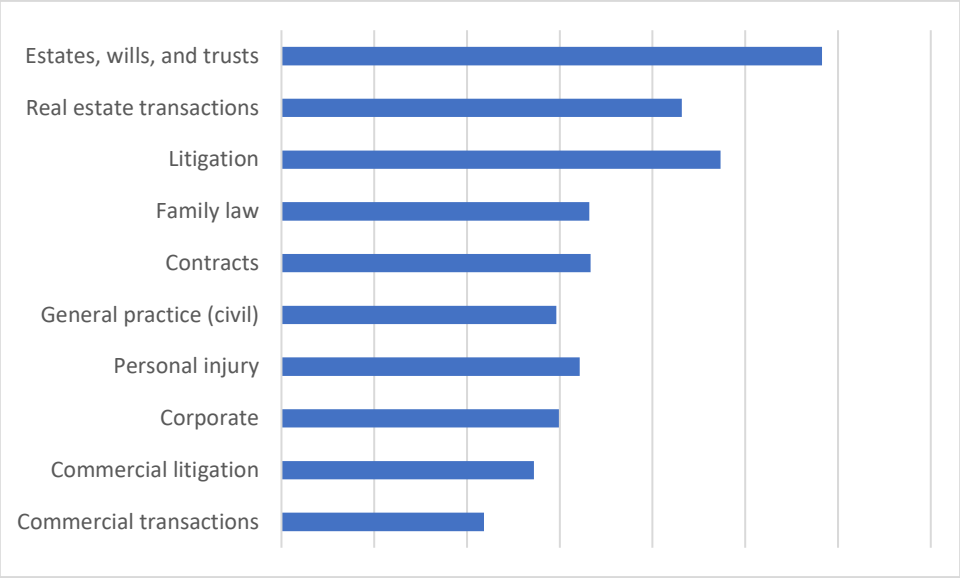
[53] See section 10.3.

The interview with the Canadian lawyer, Mr. Peter Aprile (Countertax) also confirmed the EU finding that an important categorisation is that of a generalist lawyer vs. specialised (so-called boutique law) practices, where the latter categories of firm are frequently able to compete with the much larger firms in terms of IT capabilities that are relevant for clients. Naturally, the needs of IT for boutique law firms is considerably smaller in many back-office areas, but that is rarely important for clients in terms of the level of service requested.[54]

4.2.2 Practice areas of small law firms

The Report had five volumes and each volume had a different section on "Demographics: Practice Areas", that is, primary practice areas based on the billings of the law firm, with data on the size class of the law firms involved. It is worth inspecting these figures in more detail as we do not have similar data for EU.

The number of respondents and the responses were slightly different over the volumes,[55] so we have created a weighted average of the responses on practice areas across the five volumes. Below we present a common weighted average for 1-9 lawyer size firms.



Source: (American Bar Association 2020a)

In comparison with the totality of the respondents of all firms, 1-9 lawyer firms seem to do significantly (2%) less litigation (both commercial and general litigation based on the answers), while at the same time, this firm class does most of the "estates, wills and trusts" and "family law" type of work, but also does considerably more "personal injury", "real estate transactions" and "general civil practice" type of work.

Within the small law firms category, the typical work of solo and 2-9 lawyer firms differs most in the following way: solo practitioners do a lot more of the "estates, wills and trusts", "family law" and "ADR/mediation" type of work, with significantly more "real estate transactions", and a lot less "commercial litigation", "litigation" and "personal injury" work.[56]

[54] E.g. sophisticated business clients need precise billing from small law firms, but they are not interested in the other areas of the accounting software of the law firm etc.
[55] One respondent could indicate more than one primary areas. The responses appear in percentages based on the number of respondents, so they do not add up to 100%.
[56] For figures, see Annex 4: Underlying data including corrections and cross-checks.

Very similar practice areas were mentioned also in the interview with a Canadian lawyer, except for tax law, which was a specific to the niche the interviewee worked in: employment law, litigation in general, personal injury, business law, family law, wills and estates, real estate, and property. (No such questions were asked in the interviews with the UK.)

As set out in the EU answers for question 1.4.3 in section 3, the practice areas in the EU countries surveyed seem to be more diverse and specific to the given country (such as more company formation, more criminal practice, and tax among small law firms etc.), but that is also a consequence of the different survey methods used.

The Report also provides a numerical basis for saying that the larger the practice, the more the lawyers specialise, and the more diverse the primary practice areas of lawyers are.

4.2.3 Professional activities of law firms in which support of the activity of IT tools is important

In this relation, the Report itself provides no data. In the interview with an English barrister, it was noted that not much technical progress is expected in terms of IT support of pleadings or skeleton arguments, because they are very short and concise.

In terms of the desk research in relation to the US, an interesting article should be mentioned which includes the summary of a survey carried out on the "percent of invoiced hours spent on various tasks" between 2012-2015:[57]

Legal Analysis and Strategy	27,00%
Legal Writing	17,70%
Court Appearances and Preparation	14,50%
Fact Investigation	9,60%
Case Administration and Management	5,60%
Negotiation	5,00%
Other Communications/Interactions	5,00%
Document Drafting	4,00%
Document Review	3,60%
Due Diligence	3,40%
Advising Clients	3,20%
Document Management	0,70%
Legal Research	0,40%

It is doubtful to what extent we can consider this to be representative of small law firms. The survey targeted mostly larger firms, but the smallest tier could be considered as the upper end of small law firms (5<25 lawyers). However, the table above provides only aggregated data for tier 2-tier 5 law firms. The categories used in the survey are based on task-based litigation codes defined by the ABA[58] – although small firms in the EU rarely use such codes, the meaning of each category is still standardised.

Obviously, the more time a lawyer spends on an activity, the more important it is to consider whether it is possible, necessary or worth automating it or to obtain some other IT support for that activity –

[57] (Remus and Levy 2016, p. 8)
[58] (American Bar Association 2020c)

regardless of the country in which the lawyer works. The activity on which the lawyer spends most time could also be the one which needs most of the lawyer's attention. However, these figures are still a useful starting point for further analysis on what could or should be automated.

The EU responses mentioned that "legal advice and legal research" is in strong need of IT, as are "court representation activities". The latter is confirmed by the above table as well (court appearance and case administration), but the need for IT support for "legal research" seems to be in contrast with the low number of hours actually billed for legal research in the table. This is probably more a consequence of clients asking for lots of write-off from lawyers for work on legal research, and maybe also that IT support in legal research is important for the quality of the work, regardless of being billed to a client or not.[59]

4.2.4 Hardware IT tools and servers used by lawyers

The Report shows that, similar to the EU answers (question 1.5.1), with this firm size desktop computers are still used as primary computers, but the time series numbers also show that it is expected to change in the next couple of years.[60]

As for the use of mobile phones (question 1.5.2-1.5.3.), data is scattered in multiple places. The number of firms allowing users to access the firms' network via mobile increased recently in all categories, including small firms.[61] Mobile technologies are the second in spending priority after "hardware for the office"[62], which also shows the expected increase in mobile IT tools for legal work. For legal research, the Report shows that in the US small law firms frequently access legal research materials while away from the office via their smartphone (mobile apps and mobile websites via the phone) – although laptop or desktop direct internet connection is still stronger.[63] The Report also contains detailed overview on the use of mobile phones (smartphones) in the courtroom:[64] smartphones are frequently used in the courtroom, but the most reported use (top 5) for small firms seems to be emailing, calendaring, real-time communications, reading the news and legal research. It is strange that lawyers still use their mobile phones more for "web browsing to kill time" than to accessing court documents. It seems that in general, the main use of smartphones is quite the same across both sides of the Atlantic.

As for the use of other devices, tablets do not seem to have gathered any traction in recent years.[65] Fewer than 36,5% of the small firm lawyers use it in the courtroom and the main uses are email, calendaring, real-time communications, legal research, and also accessing key evidence and documents.

With regard to other mobile devices, for the first time lawyers reported the use of smart wearables[66] in relation to research,[67] but this still remains below 3%. In summary, there does not seem to be any important difference in this regard either.

[59] (American Bar Association 2020a, p. 41 (Vol I)).
[60] (American Bar Association 2020a, pp. viii and 12 (Vol III)).
[61] (American Bar Association 2020a, pp. xx and 44 (Vol II)).
[62] Idem p. 19.
[63] (American Bar Association 2020a, pp. 36 and 48 (Vol I)).
[64] (American Bar Association 2020a, pp. xiv and 16-17 (Vol V)).
[65] (American Bar Association 2020a, p. 35 (Vol I)) and idem p. 11. (Vol III), p. 18-19 (Vol V)
[66] E.g. smart watches. There are still no reports on the use of smart wigs such as in Sony's patent no. US9417106B2.
[67] (American Bar Association 2020a, p. 50 (Vol I))

Of solo firms 31%, and of 2-9 lawyer firms 64,8%, reported having their own servers, but no strong decreasing trend is visible.[68] The prevalence of server computers therefore seems to be quite similar to the figures we received from the EU.

The Report does not contain information on the use of data centres by lawyers (question 1.5.5), only in relation to cloud services, which we will compare in the next section, 4.2.5.

4.2.5 Ability and general prevalence to use cloud services, perceived threats of cloud services

The importance of cloud computing for small law firms was emphasised by one of the interviews: "*there was a significant change in the last 5 years, as the cloud-based technologies have become much more accessible … A lot of the smaller firms might have been paying a paralegal or an external bookkeeper to help them achieve what they could achieve with technology, so in the end cost them more … The legacy and upfront costs, the barriers became lower, by cloud*."

As we have seen in the answers to question 1.5.6 in the EU, there are certain countries with very clear and specific requirements or recommendations in place in relation to the use of cloud services, and some bars have even been providing certain cloud-based services to their members in order to help firms with compliance. In the Report, the practice of law firms in the use of cloud services (here meaning software accessible online) has been clearly on the rise over the years.[69] Of small law firms, only 25.9% have not been using this technology for work (41,8% of solos).

In the EU, the answer was that lawyers are using the cloud for e-mail services, electronic storage of both client files (extranet) and internal office data (such as records of employees), and also for collaboration tools and online storage of IT backup, mentioning OneDrive, Dropbox and Google Suite. In the Report, there was no question on the type of purposes cloud is used for, but the respondents were asked for product names. The most popular cloud products mentioned were Dropbox, Microsoft OneDrive and 365 (as a single product), iCloud, Microsoft Teams and Clio (the latter is a practice management system, see section 4.3.1 and Annex 5: List of the practice management software products mentioned for EU countries).[70]

Based on the Report, the most important benefits of cloud computing for all law firms was quite the same as for small law firms,[71] such as "easy browser access from anywhere", "24x7 availability", "low cost of entry", "quick to get up and running" etc., but one can easily see that, compared to large firms, all the possible benefits mentioned by the survey were marked by more solo law firms as "most important benefit" for them. It's not surprising that considerably more solo law firms think that cloud services can provide "Better security than I can provide in-office", or that the low cost of entry is way more important for this size class than for larger ones etc.[72]

Although there was no such question for cloud in the EU survey, the answers to question 1.5.5. B) (What would be the major factors in considering … moving data offsite) are relevant for comparison.[73] Respondents from the EU also highlighted the easy access and availability of the service, but mostly it

[68] (American Bar Association 2020a, pp. xii and 15 (Vol III))
[69] (American Bar Association 2020a, pp. xxxviii and 48 (Vol III))
[70] (American Bar Association 2020a, p. 49 (Vol III))
[71] Respondents had to choose from a closed set of possible options provided by the survey.
[72] (American Bar Association 2020a, p. 53 (Vol III))
[73] The usual definition of cloud computing defines cloud computing with characteristics that are not dependent on the mode of access, i.e. availability through the internet (National Institute of Standards and Technology 2011), but by other factors such as the presence of e.g. rapid elasticity and resource pooling, which is different from the cloud computing concept used in the Report.

seems to be more of a pricing or data protection issue for them. EU respondents have also highlighted a question of trust in the provider and the clients' concern over the storage of their data in the cloud.

On the side of concerns with cloud computing, the Report mentions that nearly half of all small law firms have concerns with confidentiality and lack of control over their data. Solo law firms also mentioned "unfamiliarity with the technology" as a major concern (31,4%). On the other side of the Atlantic, around one quarter of small law firms also mentioned problems of "uncertainty over longevity of vendor",[74] which was also confirmed by one of the interviewers as a barrier to the use of practice management software in the cloud:[75] "*[it] creates a nervousness of the longevity of the products used, that is also a barrier*".

Additionally, the concern over "Lack of control regarding software upgrades/changes" was reported as important. This question was not asked in the EU questionnaire, but similar concerns were voiced by the European experts as well as part of the problems of vendor lock-in and the security of data they move offsite. In the Report, the cost of services was a concern for 16,9% (2-9 lawyers) and 20% (solo) of small law firms. The concern of clients over the storage of their data seems to go up with the firm size (2,9% of solo firms, 33,3% of 100-499 lawyer firms, but only 10,3% of 500+ firms). In another table, the Report shows that the reputation of the cloud provider is an important factor in decisions about using a cloud computing solution.[76] The reasons behind law firms deciding not to use cloud software were rather similar to the above concerns.[77]

4.2.6 Practice and case management software used

For a general discussion of what practice management software is, please see section 4.3.1. The figures for the use of practice management software for the EU responses (in question 1.7.1) ranged between 10%-80% from country to country, although generally it was around 50%.

The Report shows 33% of solo and 60% of 2-9 lawyer firms reported availability[78] and the actual use reported was 30% for solo and 45% for 2-9 lawyer firms.[79] It is important to highlight that of all the solo firms who reported that they are using cloud services, 22,5% of them reported that they were using a cloud-based practice management software.[80]

However, for a more precise picture, it is important to highlight that among those users who reported that they were using practice management software, Microsoft Outlook was mentioned by 70,4% of them.[81] By no stretch of imagination can Microsoft Outlook be seen as practice management software in the definition we use in this overview. Of course, Microsoft Outlook can host (incorporate) add-ins that can provide certain functions of practice management, but that will not turn Microsoft Outlook into practice management software. Remaining products mentioned were CaseMap (which is a case management software in the stricter sense, not for general practice management) and Time Matters. The same problem also applies to the Report considering Microsoft Outlook as a customer relationship management (CRM) system.[82]

[74] Idem.
[75] See 10.3.
[76] (American Bar Association 2020a, p. 56 (Vol III))
[77] (American Bar Association 2020a, p. 57 (Vol III))
[78] (American Bar Association 2020a, p. 33 (Vol III))
[79] (American Bar Association 2020a, p. 38 (Vol III))
[80] Clio, see (American Bar Association 2020a, p. 49 (Vol III))
[81] (American Bar Association 2020a, p. 43 (Vol III))
[82] Idem.

4.2.7 Accounting and billing software (including time recording)

The EU survey asked separately for time tracking and billing (invoicing) software (see questions 1.6.1 and 1.6.2.A), whereas the Report asked questions jointly for the two. In terms of time and billing software, 62,6% of solo firms and 87,8% of 2-9 lawyer firms have such a software,[83] and 50,7% and 68,4% of lawyers actually use it.[84] For the EU, we have received responses showing a higher use of invoicing software, but lower use of time tracking software.

Of the time and billing software product names reported for the US, QuickBooks is available also for EU countries,[85] while others are not customised to be used in the EU.[86] The rate of availability of accounting software seems to be slightly above that of the time and billing software, while its use slightly below that (69% and 89% for availability and 50% and 44% for use).[87]

4.2.8 Other office software used: document management and remote access software

As for the document management software used by law firms, the Report shows a stagnant trend in the use of such software,[88] at 39% and 51% of small law firms reporting the availability of such software and 26%, 40% actually using such software.[89] While in the EU responses to question 1.5.7 reported that no separate software was used as a document management suite (only practice management software), the Report mentioned iManage, NetDocuments and Worldox as the three most often mentioned document management software.[90] The Guide also mentioned that "*Document management software solutions can be relatively expensive for the solo or small firm operation, although there are some cost-effective alternatives*."[91] This is important, because the functionality of dedicated document management software is usually well beyond the capabilities of integrated packages containing document management functions as well (the lack of sufficiently advanced document management functionality of integrated practice management software was also mentioned in one of the responses to the EU questionnaire.)

As the Guide puts it, the "*very simple form of document management for solos and small firms (though not what we would recommend) is to follow a standard folder and file naming convention along with search software*", and "*[w]hen you reach that point, you can utilize the document management function in your case management system or go with a dedicated document management system such as Worldox.*"[92]

Regarding remote access software, most EU responses did not include product names, just "VPN connections" in general, with TeamViewer, LogMeIn and AnyDesk mentioned. The Report shows the increased availability of remote access software, for 69% of solo and 90% of 2-9 lawyer firms,[93] and 46,4% and 80% using it.[94]

[83] (American Bar Association 2020a, p. 31 (Vol III))
[84] (American Bar Association 2020a, p. 37 (Vol III))
[85] We have not verified any such claims.
[86] Timeslips, PCLaw, Tabs3 (American Bar Association 2020a, p. 42 (Vol III))
[87] (American Bar Association 2020a, pp. 31 and 37 (Vol III))
[88] (American Bar Association 2020a, pp. xxi and 28 (Vol III))
[89] (American Bar Association 2020a, pp. xxii and 36 (Vol III))
[90] (American Bar Association 2020a, p. 41 (Vol III))
[91] (Nelson, Simek and Maschke 2020, Chapter 14)
[92] Idem.
[93] (American Bar Association 2020a, pp. xvi and 27 (Vol III))
[94] (American Bar Association 2020a, p. 35 (Vol III))

4.2.9 Legal research

The EU survey addressed this question in 1.8.3.: all experts mentioned problems with lack of access to all lower-level court decisions, local government legislation or to decisions of specific government bodies that are either not available at all, or that are only available for a considerable subscription fee. With regard to accessible paid databases, experts from EU countries mentioned that they are of better quality compared to open access databases, but they are rather expensive or even not affordable for small law firms, especially if they were to have a complete coverage of such input for their legal work.

Similar concerns regarding the affordability of access were mentioned in one of the interviews with a UK expert (see section 10.3), with also a reference to the Faculty of Advocates providing a basic level of access to all advocates in Scotland as part of their membership fee (see section 10.4).

The Report also contains some results that are relevant for comparison. Half of the solo law firms and a quarter of the 2-9 lawyer firms responded that they use fee-based online resources (for larger classes of law firms, 14% responded that they do not access fee-based online resources).[95]

No questions were asked in the Report regarding the affordability of fee-based online resources. The only questions asked in relation to online resources that is relevant to this overview are the ones related to differences in satisfaction with the for free and the fee-based online resources.[96] The respondents were asked how satisfied they were with the free and with the for-a-fee products in four different aspects: (a) "*ability to ascertain credentials of author/publisher*", (b) "*availability of advanced search options (e.g., Boolean and proximity connectors, wild cards)*", (c) "*depth of coverage (content type)*", (d) "*ability to search multiple databases simultaneously*" and (e) "*user friendliness*". (The possible answers were: "very satisfied", "somewhat satisfied", "not very satisfied", and "not at all satisfied".)

Unsurprisingly, the totality of respondents (of all law firm size classes) was a lot more "*very satisfied*" with the for-a-fee online services than with the for free services. The difference was the smallest for (e) "user friendliness" (28,4% more were very satisfied, for other aspects this was: (a) 35% more, (b) 44% more, (c) 53% more and (d) 38% more). If we add together the "very satisfied" and "somewhat satisfied" answers, the answers were between 86%–98% satisfied for the fee-based services, versus between 53%–81% for the free services. The 98% was for the (c) "depth of coverage" aspect, and the biggest difference in this regard between the fee-based and for free services were in relation to the (b) "advanced search options" aspect. People seemed to be least satisfied (not very or not at all satisfied) with the (d) "*ability to search multiple databases simultaneously"* for both fee-based and for free online services (47% for free and 14% for fee-based).

4.2.10 Experiences with electronic court procedures

The EU survey addressed this issue in question 1.9. In the Report, they cover only electronic filing, so we do not have information on e.g. electronic summonses (question 1.9.6.). One of the questions asked in the Report was whether law firms have already experienced electronic filing with state or local courts. (Law firms can file with federal courts electronically,[97] although important differences do exist at court level.) The answer was 92% 'yes' for small law firm respondents.[98] On average, in both state and local courts, most of the court filing is done electronically because it is mandatory to do so.[99] For filing electronically at federal level, a specific system, ECF/PACER system[100] is used, for other levels,

[95] (American Bar Association 2020a, p. 37 (Vol I))
[96] (American Bar Association 2020a, pp. 27-28 and 42-43 (Vol I))
[97] See (Administrative Office of the U.S. Courts)
[98] (American Bar Association 2020a, p. 34 (Vol V))
[99] (American Bar Association 2020a, pp. 37-38 (Vol V))
[100] PACER: Public Access to Court Electronic Records, CM/ECF: Case Management/Electronic Case Filing.

65% website upload was reported, 38% use of email attachment, and an altogether 38% of different kinds of third-party filing services (regardless if contracted by the user or by the court side).[101]

The Report provided no information on the role of bars in electronic filing, but their roles seem to be restricted to training lawyers and distribution of information; they do not implement and maintain any filing solutions for their members (unlike e.g. in France and Germany).

At least for federal access, once the documents are filed, they become available not only for the lawyer, but for any other subscriber of the PACER system. For most of the lawyers in the EU, it is a very unusual characteristic of the PACER that it also makes all documents filed electronically available for every user (that is, public, with all redaction to be done by the filing lawyer). For the use of the federal system, the technical requirements for lawyers are rather basic: they need only an account for accessing the filing system and the documents to be filed in PDF format.[102]

For Canada, the interviewee also mentioned that electronic filing is currently possible with most courts; these functions are provided by the courts. In general, federal courts seem to move quicker in IT compared to provincial courts, even if the latter courts have a larger caseload e.g. the Federal Court of Appeal of Canada is more advanced in terms of the scope of electronic communications accessible for lawyers: it is possible not only to file the pleadings electronically, but also to access the pleadings and the history of the file, but not yet the full content of the file. Currently the system is not suitable for exchanging documents with the other party through the court. Similar to the US, bars in Canada do not maintain an active role in the provision of electronic court access to lawyers.

In the UK, it is also the courts that provide the portal for electronic communications to the lawyers, and bars are not involved in development.[103] The courts themselves use standard IT tools for communication rather than customised ones. Documents filed to courts are PDF files, and the main channel for filing is by sending emails with attachments.[104]

Now, comparing this with the responses to the EU survey, we can say that there seem to be no major differences in electronic filing. Electronic filing is accessible in most courts both in the EU countries surveyed (with some exceptions at certain level of courts, e.g. in Ireland), in the USA, UK and Canada. But the functionalities accessible electronically are still diverse, but definitely the EU is not, as a whole, lagging behind the other countries investigated. Considering the serious IT security risks related to using simple electronic mail for filing court documents, we might even say that the specific filing systems made accessible by most EU countries is definitely a more advanced and secure way of filing electronic documents compared to jurisdictions still using electronic mail.

Of course, universal accessibility of court documents the same way as it is possible e.g. in PACER is not desirable, but in general, a lawyer should be provided electronic access to the very same documents that they have right to access at the courts in person. The focus of this kind of advanced accessibility is not to receive a copy of each others' submission and the court's decisions in an electronic format. The objective it to have access to the very same electronic file that is available to the judges as well (with some specific exceptions such as drafts, classified documents etc.) As long as there is a different file at the hand of each participant (one file at each side plus the court), the documents within the

[101] For an example, see a comparative table on such service providers for the state Illinois at http://efile.illinoiscourts.gov/documents/Service-Provider-Comparison-Table.pdf, (accessed 02/01/2021). See the data at (American Bar Association 2020a, p. 39 (Vol V))

[102] See https://www.uscourts.gov/court-records/electronic-filing-cmecf/faqs-case-management-electronic-case-files-cmecf#faq-Are-documents-filed-in-CM/ECF-secure (accessed 02/01/2021).

[103] See sections 10.2 and 10.4.

[104] The electronic bundle or PDF bundle mentioned in the interview is actually just a PDF file that was made from merging or combining multiple PDFs, but this is not to be confused with the PDF portfolio.

different files are only „hopefully identical" copies. This could make it possible for all participants of the procedure to make very exact references to very small, specific parts of the same documents and make such references in a way that computers can work with.[105] This way of access would open up a lot of new innovative ways to work with court documents for both courts and lawyers alike. This kind of access is not yet possible in any of the countries examined yet, in or outside the EU, but such opportunities should be investigated within the EU.

In the future, there is a good chance that important developments will be seen in the United Kingdom with regards to new initiatives related to online courts, such as from the online court reform[106] and the promises made by Geoffrey Vos as the incoming Master of the Rolls.[107] However, based on the actual state of play in UK courts, and on the amount of progress made since 2015 in this area, we cannot say that the changes made are particularly noteworthy when compared to what has already been achieved among EU member states.

As for the IT tools of lawyers, there seems to be more promise in reforming certain aspects of a litigator's work in English-speaking countries compared to non-English-speaking countries. Litigation support software such as CaseDynamics from Relativity or CaseMap from LexisNexis seems to have dynamically gained followers in the US in the last few years, mostly among 2-9 lawyer and bigger firms (this size class tends to do more litigation compared to solo firms, see section 4.2.2).[108] The EU survey did not find any indication of small law firms using such software.

Also, automated transcription of all court sessions would be useful for some participants of the case,[109] including small law firms, but only if the quality of the transcription approaches the shorthand skills of an experienced court reporter; otherwise it does more harm than good.

The main use of such speech-to-text software is currently to transcribe the dictation of a specific user, on whose voice the software was previously trained. In that domain, such software is already practical and useful.[110]

But that is not the same as replacing a court reporter who has to recognise very accurately the speech of unknown people. Currently, even English language transcription software is far from being at this level.[111] Of course, it would probably be the task of the courts to provide such full transcription for court hearings, but lawyers could also make good use of such software for transcribing depositions (if such an institution exists in a given EU country).

In general, speech-to-text software already exists for most European languages as well, but the error rate of such software is probably above that of English (that is, off-the-shelf speech-to-text software in national languages tend to be less precise than what is available for English).

(The e-discovery related functions are discussed under section 4.2.11.2.)

4.2.11 Use of AI tools by lawyers

In the EU survey, question 1.12. addressed this use. Generally, it was reported that EU small law firms rarely use these IT tools, and then mostly for legal research. One of the experts reported that the major

[105] Similar to how e.g. hypertext is supposed to work.
[106] See the "digital justice processes" in (House of Commons 2019, p. 9-12)
[107] (Slingo 2020)
[108] (American Bar Association 2020a, pp. xxi and 26-27 (Vol V))
[109] See also the interviewee referring to this at section 10.2.
[110] See (Nelson, Simek and Maschke 2020, Chapter 10): "This is especially valuable for those who are not very accurate or fast typists".
[111] (Filippidou és Moussiades 2020) for comparing current systems. The results of the evaluation reveal that even under ideal conditions, "best tool" with such error rate is unusable for live use in court transcriptions.

barrier to the use of AI tools by small law firms was the current cost of such tools and the lack of mass use due to the lack of big data. Due to the low number of uses of such tools, at this stage it is still very difficult to estimate their use in the EU countries examined.

The Report used the definition of artificial intelligence differently from that of the CCBE Considerations:[112] *"intelligence displayed by machines such as when a machine mimics human cognitive functions like reasoning, learning, or natural language processing*". Based on this definition, 5,7% of solo and 3,6% of 2-9 lawyer firm respondents said that their firm is currently using AI-based technology tools, and only 3-4% of them said that they are "seriously considering" purchasing such technology.[113] In all size classes of law firms except for solos, more than 64% of respondents said that they either do not know whether their firm is using AI tools or they do not know enough about AI to answer this question – which is a sensible answer given the definition and marketing fog around the products. Even if solo firms seemed to be the most confident about their answers (only 52% of them said "don't know" or "don't know enough about AI"), they were the most negative in terms of future use of AI tools: 39% of them said "not interested purchasing such technology" instead of e.g. 27,9% of 2-9 lawyer firms, 19,2% of 10-49 lawyer firms. Based on the results, larger firms are more open to the use of AI, and none of the respondents from law firms of 100+ lawyer firms said they were "not interested" (with 82% uncertainty for 100-499 and 65% uncertainty for 500+ lawyer firms).

Small firms not being interested in AI was confirmed also by the interviews on the work of advocates in Scotland and barristers in England and Wales.

In relation to the interview with the Canadian expert, it is worth highlighting the cautious note of Peter Aprile:

"*I see small law firms gaining access to these tools. But I can argue that currently most lawyers are not yet equipped to use these tools responsibly, not in a way that best helps their clients. The lawyers will not understand the results that the black box gives them. There are shadows of these tools as well that people should be mindful of, like bias and skewed results. There should perhaps be qualifications for lawyers before they start using these tools.*"

Regardless of the high rate of uncertainty, the results were different in the Report for the question of "*when do you think AI will become mainstream in the legal profession?*":[114] the rate of uncertainty for small law firms was similar (60% for solos, 56% for 2-9 lawyer firms), but uncertainty was much reduced for larger firms compared to the previous question (39% instead of 71% for 10+ lawyer firms). Of those small firms having an opinion, 55% of them thought that AI is already mainstream, or it will become mainstream in 3 years' time. Only the size classes of 100+ lawyer law firms had a more positive outlook in this regard. Of the remaining small law firms having an opinion, 6,2% thought that AI will become mainstream only in 10 or more years.

The Report included no AI specific questions in relation to the use of legal research, so the comparison in this regard is restricted to those already set out in section 4.2.9.

For the UK, the results of an interesting survey by the University of Oxford was taken into account.[115] There is no information in the survey on the size of law firms, but solicitors in England and Wales were surveyed, and that gives a high probability that the answers were given by law firms that we do not consider "small" in this overview. Unfortunately, this is not transparent in the survey.

[112] (Council of Bars and Law Societies of Europe 2020, pp. 8-9)
[113] (American Bar Association 2020a, p. 64 (Vol I))
[114] (American Bar Association 2020a, p. 66 (Vol I))
[115] (Sako, Armour and Parnham 2020)

In the survey, 25% of the 236 responding law firms reported the use of "AI-assisted legal technology" for legal research, 18,2% for due diligence, 14% for technology assisted review, 12,3% for regulatory compliance and 10,2% for contract analytics, 2,1% for predictive analytics for litigation, and 10,2% for analysing fee-earner utilisation metrics.[116] That shows a much higher rate of use of AI tools among the surveyed law firms in England and Wales than we saw at the small firms in the US or among the respondents of our EU survey.

In summary, we can see that the results of the interview with a barrister and an advocate confirmed the results of the survey in EU, that EU small law firms rarely use these IT tools, and then mostly for legal research. The results of the Report also showed considerable uncertainty among all classes of law firms on the use of AI in the US. However, it would not be appropriate to summarise this by stating that in all the world, AI is not really in practical use by law firms, because both the English survey and the Report among larger firms in the US show a strong use of AI that is not insignificant at all. Even if half that answer was based on misunderstanding the question or the tool they were actually using, this clearly shows a gap. This shows that in England for solicitors and in the largest US legal markets, there already exists a potentially healthy, revenue (and not only PR) driven market for AI-assisted tools for the legal services, at least among large firms. And with time, the most relevant parts of these tools could easily become marketable for smaller size classes of law firms. Unfortunately, the barriers between the different "legal IT" markets in the EU are probably much higher: not only the operation of law firms is different to anything imaginable in non-EU countries, but also the national laws and, most importantly, the languages make a difference. That is a serious gap that we have to highlight, even if at this stage the practical differences in how small law firms use AI-assisted tools (if any) are negligible.

In the next sections, we are going to go into more detail in relation to the individual categories of AI as identified in the questionnaire.

4.2.11.1 Use of AI tools by lawyers for legal analysis

As we have mentioned in relation to the answers to question 1.12, relatively wide use of AI tools was reported for the category of legal analysis. For Belgium, Jura (Wolters Kluwer) and Strada (Larcier) were reported, and for the Czech Republic, AESI, Codexis, and Beck Online services. For France, Predictice and Case Law Analytics were reported as found in some law firms, especially boutique firms, but it was mentioned that their price range seems rather high for most small law firms.

The Report also contains an interesting question that can be used for some comparison with the EU.[117] Of small law firms, 69% of solo and 60% of 2-9 lawyer firms reported that they have not used legal analytics in the past year. The ratio of "not used" answers decreases with firm size, and the indication is clear that the largest law firms indeed use it more widely (18% of "not used" for 500+ lawyer firms, around 46% "not used" for 50+ lawyer firms).

For those small law firms (1-9 lawyers combined) who reported using "legal analytics" software, the following purposes were mentioned in the top 5 places (with a tie for two different purposes):

Conduct legal research	73,8%
Develop case or matter strategy	38,0%
Understanding judges	20,7%
Predicting likely outcomes of strategy/arguments	20,7%
Demonstrating expertise or competitive advantage	19,5%
Assess expert witnesses	18,5%

[116] (Sako, Armour and Parnham 2020, p. 7)
[117] (American Bar Association 2020a, p. 62 (Vol I))

Business development	18,5%

The number of total answers was rather low, and so this may not have much statistical value, but it could still be interesting for future strategies and research. It also shows uncertainty in the terminology and categories of AI-assisted tools – in our terminology, use of legal analytics is a separate purpose from legal research (see the definition in section 3, question 1.12.).

As we have mentioned above, in the University of Oxford survey there was a figure of 10,2% of law firms using AI-assisted tools for contract analytics and 2,1% for predictive analytics for litigation.

4.2.11.2 Use of AI tools by lawyers for reviewing a large body of electronic documents

In the EU survey, question 1.12. addressed this as part of category E) (and in effect, also category D)), but based on the answers only the response of Czechia mentioned such use. Based on the answers, we can say that currently EU small law firms rarely use this category either – not only those tools that are e-discovery tools in the sense of USA civil procedure, but also any kind of search tools for a large body of documents where similar tools maybe of help.[118] We would rather avoid the term "predictive coding" and stick to "technology assisted review".

The Report covers in-depth electronic discovery of electronically stored information,[119] including some of the concepts used for searching,[120] the ratio of outsourcing e-discovery and reasons for not using technology-assisted review. As stated above, procedural laws in Europe are very different from those of the USA in terms of e-discovery, but this does not mean that this kind of review is not relevant to this overview, because the point here is the use of computers to assist searching through a large set of documents.

The Report says that such tools were used by only 11% of solo law firms and 19% of 2-9 lawyer firms,[121] which results in 19 positive responses for the whole of the small law firm category. Therefore, it is rather early to draw any conclusions from these answers. The results were that in terms of ranking, these tools were most often used for document prioritisation, data culling (that is, removing non-relevant and duplicated data, and identifying keywords and date ranges within the given limits), and reviewing data produced by the opposing side. The least popular choice of reason for such use among small law firms was verifying the work of the team tasked with the document review.

Reasons for not using such software are also interesting for our overview: small law firms mostly commented that unfamiliarity with the tool was the biggest reason (84% and 73%), followed by the size of cases not warranting the use (36% and 24,5%), and also costs of the technology (32%, 21%).[122] Even in the US, small law firms usually do not outsource the e-discovery process to third parties, whether they are lawyers, computer forensic specialists or e-discovery companies.[123] The largest ratio of "yes" answer was related to the latter two groups (where around 20% of the 130, 2-9 lawyer firms said yes, and only 5-6% of solos outsource e-discovery).

In the University of Oxford survey for England and Wales, 18,2% of law firms reported use for due diligence and 14% for technology assisted review.

---

[118] E.g. in arbitration, English rules of civil procedure on electronic disclosure can frequently be relevant in EU countries as well, even if that's not a primary area of practice for small law firms. For the definition of predictive coding, see Pyrrho Investments Ltd v MWB Property Ltd. [2016] EWHC 256 (Ch).
[119] (American Bar Association 2020a, pp. 50-54 (Vol V))
[120] (American Bar Association 2020a, p. 49 (Vol V))
[121] (American Bar Association 2020a, p. 50 (Vol V))
[122] (American Bar Association 2020a, p. 53 (Vol V))
[123] (American Bar Association 2020a, p. 54 (Vol V))

4.2.11.3 Use of AI tools by lawyers for document assembly (document automation)

Some of the experts reported certain tools for document assembly solutions (such as xLaw in Estonia, ClauseBase and the basic templating capabilities of practice management software were reported). Even if sophisticated document assembly tools are available in the EU besides those reported (e.g. HotDocs, ContractExpress), such tools are either expensive or complex to use for small law firms.[124]

In the period of time covered by the Report, we can see that no major breakthrough occurred in this category in recent years, and the availability trends are stagnating. US small law firms report that 40% (solo) and 52% (2-9 lawyer firms) have such software available, with 34,7% and 39% reporting its actual use.[125] Even those among who use it, the rate of those very satisfied with the product is relatively low compared to other categories of software.[126] During the interviews with the UK/USA management consultant, document assembly software was highlighted as an important motivation for small law firms in adopting the use of practice management software.

However, once again, the results of this relatively high availability of tools should be taken with caution, as the second most frequently reported document assembly tool was Microsoft Word.[127] The first most popular tool was HotDocs and the third most frequently mentioned document assembly product was MyCase (which is a practice management software with only basic built-in document assembly functionalities).

In summary, it is possible that document assembly tools are used more often in the USA than in the EU countries surveyed. If a sophisticated document assembly tool like HotDocs is used by more small law firms in the USA (and possibly in the UK), that could result in considerable differences in the capabilities of small law firms. Small law firms are not able to use these market-leading document assembly software for languages other than English with the same ease as English-speaking small law firms. Currently, even the Guide is of the opinion that HotDocs is "*an expensive document assembly tool and not particularly suited for the solo or small firm attorney … Our recommendation for solo and small firm attorneys is to use the document assembly capabilities of their case management platform or the template automation capability that is built into Word natively.*"[128]

4.2.11.4 Use of AI tools by lawyers for financial dashboarding

The only reference to this category among the EU responses was that this kind of functionality is included in practice management systems (BE, DE, FR). This kind of use was mentioned during the UK/USA management consultant interview[129] as part of the customary functionality list of a practice management software of appropriate quality. Also, the functionality demo of the practice management system for advocates and their clerks in Scotland[130] highlighted the importance of this function.

---

[124] E.g. the freeware tool "docassemble.org" is free, but developers are needed for its use.
[125] American Bar Association, Legal Technology Survey Report, pp. 28 and 36 (Vol III))
[126] (American Bar Association 2020a, p. 39 (Vol III))
[127] (American Bar Association 2020a, 41 (Vol III)) Compared to Microsoft Outlook reported as a practice management software, some very basic automation functions do indeed exist in Microsoft Word Mail Merge, even without having to resort to built-in macro (VBA) functions. Even this function set of Microsoft Word is usually able to reproduce the most basic document assembly functions advertised in some practice management software, but access to master data from the practice management system is usually much easier from the PM software.
[128] (Nelson, Simek and Maschke 2020, Chapter 15)
[129] See section 10.3.
[130] See section 10.5.

In the University of Oxford survey, 10,2% of the responding law firms mentioned using AI-assisted tools for analysing fee-earner utilisation metrics (but that use was probably reported by larger law firms).

4.3 Gaps identified in the use of IT tools of EU law firms

In the first section below, we would like to give an overview of some general findings in relation to the use of IT tools by lawyer for their internal purposes (practice use of software). In relation to gaps in the use of AI tools by lawyers in EU countries, our analysis is set out in section 4.2.11. We summarize our findings on the use of IT tools by lawyers as compared to the UK and USA in section 4.3.4.

4.3.1 What is a practice management software used for and why is it important for law firms in terms of their IT capabilites

There is no universally accepted definition of a practice management software. The very generic objective of such software is providing an enterprise information system for the management of any practice, that is, any professional activity, or, based on EU law, any regulated profession.[131] We can find practice management software for many professions, including medical or dental practice, accountants, architects etc. However, for us, only legal practice management is of relevance. (For some reasons, US literature often refers to legal practice management as case management, but we will use only the term practice management, unless we make a reference to a source that uses the term otherwise.)

The Report defines case/practice management software by a list of typical functions: "typically provides individual and firm-wide *calendars*, *court filing deadlines and rules*, individual *case listings*, and a firm-wide *contact list*".

More sophisticated practice management software serves the same purpose as general businesses call enterprise resource planning (ERP) or customer relationship management (CRM) software.[132] Even though small law firms rarely have the financial means to customise and use standard ERP and CRM software that larger businesses use (such as SAP, Microsoft Dynamics, Salesforce CRM or NetSuite), we should be aware of these similarities.

Recently, several new external requirements led even the smallest of law firms to use more and more IT systems in their daily operations. Such requirements include clients requesting the lawyer to use new channels for keeping contact or submitting the end results, issuing electronic invoices, or the mandatory use of e-court solutions, electronic reporting of accounting and compliance data to authorities (such as on client money escrow, money-laundering etc.), keeping of electronic registers etc. More often than not, the size of the "enterprise" provides no exemption from complying with these burdens.

Of course, these problems are not specific to law firms, but compared to other sectors, law firms are subject to more stringent regulation in most countries, and that leads to a high aggregate cost of obligations,[133] with a high sensitivity to new costs for the smallest of practitioners. Furthermore, obligations related to electronic court and government services are very recent, mostly specific to the business of law firms, and with a high probability of further increase in the long term.

[131] See Directive 2005/36/EC of the European Parliament and of the Council of 7 September 2005 on the recognition of professional qualifications, https://eur-lex.europa.eu/eli/dir/2005/36/2020-04-24
[132] See note 38.
[133] See the indicators of Product Market Regulation of the OECD at http://www.oecd.org/economy/reform/indicators-of-product-market-regulation/ in sector PMR and in the Occupational Entry Regulation: the Legal services sector has the highest average index of regulation.

A potential, even if not very promising, way to handle the increase in the administrative burdens caused by IT tools is the use of even more IT tools – more specifically, such *IT tools that are able to seamlessly integrate data already available at the law firm with data generated during the electronic court and government procedures*, minimising manual operations for producing data for administrative purposes.

Considering the diversity in the operations of law firms both within a single country and within different countries of the EU, developing and maintaining such IT tools for integration is a difficult and expensive task.

Currently, the most typical integration software for law firms is legal practice management software, but that does not mean that the desirable practical way forward for lawyers towards integration is to use a ready-to-use practice management software.

For larger law firms, it is impossible for a single software to support all expected operations of a law firm. But at such size of law firms, it is economically possible to pay software developers and consultants for customization and integration of different software suites – not in the least because at that size, law firms all use such software for the separate functions that were built from the ground up in a way that makes interoperability with other software possible.

Unfortunately, that is not the case for most software built for small firms. Building interoperable software and extra flexibility has extra costs. The developer has serious economic constraints in a rather tight market where lawyers of small law firms (being clients of the developer) are notoriously cost-conscious due to their own economic situation (and due to retail and micro business clients also being very cost-conscious with the costs of legal services). See also the statement of the Canadian expert: "*We [lawyers] currently have no cultural need for software, that's why don't value it, and this leads to no IT budget. Lawyers are notorious for not letting go of money even for what they see as good reasons, let alone for reasons they don't believe in.*" It is not to say that custom-built software has any advantage over commercial off-the-shelf software, it is just important to highlight that the larger a firm is, the less likely it is to be able to use a single integrated software package without integration and implementation costs, cloud based or on-premise.

But despite the architectural difficulties, it is possible that legal problems of small law firms are solved by different software suites and not by a single practice management – that makes more sense in a very fragmented market where different lawyers need rather different, customised products (and developers or consultants to help them implement and customise these separate parts).

That is why it is important also to take into account not the existence of practice management software, but the functions of practice management software that could help a law firm.

4.3.2 Relevant functions of practice management software

An area for further research outside CCBE or ELF could be the mapping and comparison of the functions of currently marketed practice management software For lawyers, such a research could result in stable, standardised application programming interface on the lawyers' side of electronic court and government services. Such a standardised approach would also benefit Member States providing e-justice solutions directly to lawyers, or bars providing such gateways for their lawyers.

However, this detailed research is not the subject matter of this overview. But it is worth summarizing here what the main objectives are of the typical functionalities currently used in such practice management software used by large or small law firms. Such a list could also be used as a checklist by small law firms. Without IT support in such functionalities, small law firms will remain at serious

disadvantage compared to larger law firms or legaltech providers, so these functions can also be seen as a prerequisite for making use of new technologies that are already available for larger law firms. E.g. without a master record set of client data and without easy access to its previous documents, lawyers will not be able to make use of document assembly solutions and legal analytics of their own cases and documents created, and they will not be able to use tools to automate the precise filing of incoming and outgoing documents.

The list of functionality is presented at two levels. The basic functionality (minimum set) is the following:

a) **Accounting functionality**, including time keeping (if necessary for the lawyer) and billing, also used for expense reporting for courts and clients, also client money escrow functions (registries), and the possibility to use financial dashboarding.

b) A master **record set for client** identification **data**, including data for know-your-customer and anti-money laundering obligations (if any).

c) **Internal document and record management functions**, integrated with electronic court solutions: helping the lawyer sharing documents for internal work purposes (i.e. document management) and also for record keeping obligations (for case files etc.), should be able to cover major channels of client and court communication used (e.g. for lawyers communicating with clients by email, record keeping of emails as well, for electronic court solutions, the transaction data of dispatch and receipt should be covered in an authentic way).

Most of the above functions could in theory be provided by any well-functioning ERP system that is appropriate for any micro or small enterprise in a generic service industry (without too much emphasis on inventory and manufacturing functionalities), but in practice most of these tools only focus on the accounting functionality.

At a more advanced level, the IT support of law firms (except solo firms) also tend to integrate the following separate functionalities:

d) Basic templating **document assembly** (automation) functions that are interconnected with the master record set of client data and document management functions as well.

e) **Task management** functions with an ability to record, delegate and follow-up tasks to employees of the small firm, keeping track of deadlines and providing an overview of the detailed tasks currently in progress at the firm. This should also include a minimum level of **customisable workflow management** that could ensure that for some major types of tasks, the employee fulfils all necessary subtasks (e.g. approvals, checklists etc.)

f) **Knowledge management functionality** is perhaps the most advanced level that is used effectively, even if in only a few of the larger law firms in the EU. This should integrate with task and workflow management and also document assembly solutions. This functionality could ensure for even small law firms that with a minimum of invested time, lawyers themselves could record (capture) the reusable knowledge they acquire during the provision of services and which, in similar tasks in the future, could be reused by other users of the same law firm as well. In larger firms, this is usually done by separate professionals not doing chargeable client work (professional support lawyers) and not being subject to targets of billed hours, but regardless of this practice, most of the knowledge to be captured is created by lawyers doing client-facing work.

g) Due to the close interaction with court work, a large ratio of practices would also benefit from workflow and registry functions that are **specific to court processes**, such as what are called diarising and docketing functions. Such solutions make it easier for the law firms to comply with court deadlines and court processes, including providing support in avoiding missing deadlines by calculating reminders and follow-up actions based on the content and metadata of court documents, assisting in creating documents for court work with appropriate content. Specialised litigation software also provides functionality in this area, such as in fact chronology, managing evidence for litigants etc. In this area, results of the Report show that even smaller firms in the US are relying more and more on this type of software.[134]

4.3.3 Difficulties in the market of software for lawyers in general

The market for legal practice management is mostly country specific due to the rather wide differences in the needs and regulation of law firms between countries. In some countries in the EU, there seem to exist markets that are profitable enough to serve at least the current needs of smaller law firms, which is indicated by the high ratio of lawyers using such software. Here, sufficient income from subscriptions make it feasible for software publishers to develop and maintain a function set specific for the needs of law firms. But in other countries, the market seems fragmented, with a few obsolete products used by a low ratio of lawyers, all products missing important major functions such as document management or integration with electronic court solutions, and with a tardiness in adapting to fast changing e-government gateways.

The actual product names collected during the Project are listed in Annex 5: List of the practice management software products mentioned for EU countries.

In this list, we can already see some cross-border products that are sold in different countries,[135] with national localisations. We can also see products developed outside the EU (both in the UK and in Canada or the USA) that are already being sold in several different EU member states.[136] We can also see products developed in the EU that are sold outside the EU.[137] We can see that some of the products already lay great emphasis on the easy integration of their products with other products.[138] From this, we can say that at least in a number of EU countries, a viable market already exists with chances that sustainable software products will remain accessible for lawyers in the longer run as well. However, we should be mindful that this is not true for all the EU countries and lack of access to such software could also result widening differences in the IT capabilities of lawyers in different EU countries.

4.3.4 Summary of the gaps in the use of IT tools identified

Comparing EU small law firms to opportunities in the UK and USA, we were able to identify important gaps in two areas.

The first, more direct problem area that we found is the ability of law firms in the EU to rely on at least a basic level of enterprise software functionalities to assist them in their practice. The wide use of such functionalities is a prerequisite for the use of many other, advanced services, and novel technologies. Without such software, a lawyer will be required to use many different platforms, all developed by third parties which are not really interested in the peculiarities of how a law firm works, and all

[134] Litigation support software, see section 4.2.10.
[135] See the table in Annex 5: List of the practice management software products mentioned for EU countries.
[136] E.g. LEAP, Clio, Cicero lawpack, Tikit Partner for Windows etc.
[137] See e.g. Jarvis Legal.
[138] Such as providing integration with existing popular third party products and platforms, or making available well-documented and standardized application programming interfaces (such as e.g. OpenAPI) for integration of its own product with other new products by third party developers etc.

integration has to be provided manually by the lawyer. This is expensive and seriously limits the number of functions a lawyer can work in.

In many EU Member States, there seems to be a healthy software market that is able to ensure this functionality. And it is not to say that this "enterprise software" has to be a practice management system – maybe in some countries electronic government tools will start to provide some basic functionality for lawyers, maybe in some other countries, accounting or billing tools or ERPs, without calling them practice management etc. But this is a problem that would probably benefit from some coordinated approach at the level of the EU, at least in sharing the experiences and best practices across Member States and finding critical issues that are independent from national regulation.

The second gap is the use of AI, at least outside the field of legal research. Even if small law firms in the USA and in England do not frequently use these tools any more often than small law firms in the EU, the use of such tools among larger law firms in these countries is clearly increasing. This shows there is already a potentially healthy market for some AI-assisted tools to be used for legal services. In time, smaller solicitor firms in England and Wales and smaller law firms in some of the states of the USA will probably also have access to some kind of tools tailored for smaller users, based on the current large firm offerings. But due to legal differences and linguistic differences, most of these products will not be usable by law firms in the EU. And even in terms of tools developed within the EU, the barriers between separate legal IT markets within the EU are much higher than within the different states of USA or UK. But the exact nature and extent of this difference is investigated during Phase 2 of the AI4Lawyers project.

5 Annex 1: List of full questions

Questionnaire:

The list of questions asked in the questionnaire is the following:

1.3 Major categories of small law firms

1.3.1 Different categories of law firms in terms of IT capabilities: *In terms of IT capabilities of small law firms, do you think that there are different categories of small law firms (in practice or geographical areas) in your Member State that should be taken into account in the report to provide an accurate picture of the average IT capability of a small law firm?*

1.4 Activities of small law firms where support by IT tools is important

1.4.1 General management related administrative burdens of small law firms: *What areas of general practice management (i.e. management issues not specific to activities of law firms) do you think are the most burdensome and costly for small law firms to carry out without the use of IT tools?*

1.4.2 Possible IT support for general management of small law firms: *Do you think some of the burdens listed in the previous section could be effectively decreased by appropriate IT tools available to lawyers? Should these IT tools be developed at national level or below only, or is there any possibility for EU level action?*

1.4.3 Dominant professional activities of small law firms: *What professional activities are the most important in terms of revenue for small law firms in your country? What are the dominant activities of small law firms from which they make a living?*

1.4.4 Professional activities of small law firms in which support of the activity by IT tools is important

A) *Among the activities listed in the previous answer, which activities do you think need the most support by IT tools?*

B) *Should these IT tools be developed at national level or below only or is there any possibility for EU level action?*

C) *Which are the areas where you think IT tools will not be able to make a difference?*

1.4.5 *Any other observation in relation to activities of small law firms where support by IT tools is important?*

1.5 Questions related to major non-legal specific IT tools currently used by small law firms

1.5.1 Desktop vs. laptops as primary work devices: Do small law firms use desktop computers or laptops (notebooks etc.) as their primary work devices? Do you expect that to change in the following 5 years?

1.5.2 Current use of mobile phones and tablets by small law firms for work activities: Except for voice calls and sending/receiving SMS, what are the main uses of mobile phones and tablet devices in the life of a small law firm?

1.5.3 Expected future uses of mobile devices, and competition with current primary work devices

A) Do you see any new type use for mobile devices (that are not laptops) that might increase in the foreseeable future?

B) Do you think that in the longer run, mobile devices might replace current primary work devices in certain areas? If yes, in what areas? If no, why not?

1.5.4 Server computers or appliances owned / dedicated for use by small law firms: In your opinion, what is the estimated ratio of small law firms having a

dedicated physical server computer (either at its own premises or hosted in data centres) or appliances such as a NAS for file storage?

1.5.5 Using data centres for offsite operations by law firms

A) Do you think small law firms would be willing to move offsite all the data they currently hold at their premises to a dedicated storage in a secure environment?

B) What would be the major factors in considering such a decision?

1.5.6 Non-legal specific internet and web services used by small law firms

A) Of the following types of services, which type do you think small law firms use for supporting their professional activities? [email services, electronic storage of client files without client having access, extranet, electronic storage of internal office data, storage of backup files for local IT, password management, collaboration tools]

B) If any such use as listed above is prohibited or regulated in your country, please indicate this below.

1.5.7 Document management solutions used

A) Do you know any document management solution that is used by law firms to store client files? What is the minimum size of a law firm where you think such tools are used?

B) Can you name some of the most popular document management solutions used by small law firms in your country?

C) If a small law firm is not using a specific document management software, what kind of substitutes do they use (e.g. SharePoint based solutions, file-based storage etc.)?

1.5.8 Remote access to the law office: Which of the following tools is frequently used by small law firms in your country for remote access to the law office? (VPN, remote desktop).

1.5.9 Any other observations in relation to major non-legal specific IT tools?

1.6 Time and billing and accounting software used by small law firms

1.6.1 Specific time recording software

A) How often do small law firms use specific time recording software for recording time worked for clients?

B) Are these tools specifically made for legal use or are they shared by other professions as well?

C) Could you name some of the most popular software or services used for time recording?

D) For those small law firms not using time recording software, could you please specify what kind of more generic IT tools lawyers use to record such information (e.g. Excel, text files, Access databases etc.).

1.6.2 Accounting and billing software

A) How often do small law firms use software for issuing VAT invoices? Besides invoicing, how often do small law firms use software internally that covers other activities of accounting and billing?

B) When small law firms use such billing software besides invoicing, what kind of activities does the software cover?

C) Are these billing solutions used also by other professions or are these mainly lawyer specific?

1.6.3 Any other observations in relation to time and billing and accounting software?

1.7 Case (and practice) management of small law firms

1.7.1 Popularity of integrated, law firm specific software (including case management and practice management, ERP and CRM software)

A) What proportion of small law firms use integrated case or practice management software (including ERP, CRM software)?
B) Can you name the most popular software titles or services in this field in your country as used by small law firms?
C) Are these products web-based products? Does such software used by law firms cover other categories of software listed above (e.g. time recording software, billing, document management etc.)?

1.7.2 Administrative burdens of law firms in relation to court cases

A) Are small law firms required to keep an up-to-date registry of the court cases in which they participate?
If yes, is this requirement based on generic due care of the law firm or are there specific legal requirements or rules of professional conduct that make this mandatory?
B) If yes, what kind of information are law firms required to record? What are the most burdensome administrative activities in recording this information?
C) Is current case management software able to assist the law firm in decreasing such administrative burdens?

1.7.3 Integration of case management with e-court solutions

1.7.4 Integration of case and practice management software with external software

1.7.5 Any other observations in relation to case (and practice) management of small law firms?

1.8 Legal research tools used by small law firms and legal data accessible for lawyers

1.8.1 Freely accessible legal information used by small law firms [multichoice]: national or regional legislation (normative acts of public bodies) in force, local legislation in force, individual decisions of courts or other public bodies, legislation and decisions with historical relevance, legal textbooks, digests, commentaries, articles from law reviews, legal journals,

1.8.2 Legal information accessible from paid legal databases as used by law firms [multichoice, same as previous list]

1.8.3 Barriers to access to legal information for small law firms: What are the major barriers to access to legal information in your country that you think impede the quality of work carried out by small law firms?
What kind of information is missing from legal databases that would be useful (e.g. lower-level court decisions are not available, decisions of certain public bodies are not available)?
Are there any types of information that are usually not accessible to most small law firms due to the high prices of legal databases?

1.9 Court specific tools used by small law firms (interfacing with national e-justice tools)

1.9.1 Short overview of electronic court procedures: Can you please provide us with a brief, high level overview of the electronic court procedures available (i.e. optional) or mandatory for small law firms in your country?

1.9.2 Sharing of responsibilities for IT tools in the use of electronic court procedures

A) Who is expected to do what in relation to IT tools used in the electronic court procedures?
B) What kind of tools are lawyers expected to have in order to use electronic court procedures?

1.9.3 Role of bars and law societies in electronic court procedures and in providing IT tools for lawyers: Do bars or law societies have any role in providing IT tools for lawyers? Are bars and law societies consulted by the state when

deploying or changing electronic court procedures? At what stages of development (e.g. before starting the design, after the development is finished etc.)?

1.9.4 Electronic administrative procedures outside electronic court procedures: Are there any specific electronic administrative procedures that are important for small law firms in your country, but where the situation is very different compared to electronic court procedures?

1.9.5 Issues when submitting documents or cases to courts or other administrative procedures electronically: What are the major barriers that small law firms face in relation to electronic court and other generic administrative procedures when submitting a case or a document to the courts or other authorities?

1.9.6 Issues in receipt or responding to summonses in electronic court or similar procedures? What are the major barriers that small law firms or their clients face in relation to being summoned in electronic court or similar administrative procedures?

1.9.7 Issues in online monitoring of electronic court or similar procedures? What are the major barriers in the online monitoring of stages of an electronic court proceedings or generic administrative proceedings?

1.10 Tools used for specific lawyer activities (outside representation of a client at ordinary courts):

Please describe what kind of IT tools the small law firms use for the given activity [outside generic drafting by word processors …]

1.10.1 Registration of land or real estate and related activities by small law firms

1.10.2 Company law related administrative activities by small law firms

1.10.3 Registration of ships or other vessels and related activities by small law firms

1.10.4 Registration of IP rights by small law firms

1.10.5 Any other observations in relation to “Tools used for specific lawyer activities”?

1.11 Refining the results of the February 2020 Survey on AI use by the European Commission

1.11.1 With regard to the responses provided to the Commission for your country, do you wish to provide any reservations as to the accuracy of the responses, explanations for the results for your country or any further information you think would help in obtaining a better picture of the categories of AI tools used in your country?

1.11.2 What do you think the rate of AI use by lawyers would be for your country?

1.11.3 Based on categories of AI tools as used in the 2020 February EC Survey on AI use, how do you think the AI tool categories would rank in your country (1st: mostly used category etc.)?

1.11.4 Any further comments, explanations with regard to the AI tools used in your country?

1.12 Barriers and opportunity in the use of certain categories of AI tools

1.12.1 Legal analysis (e.g. extracts/trends from past judgements)

1.12.2 Document automation (e.g. assembling first draft of contracts, forms or other submissions)

1.12.3 Advanced search (e.g. question-answering systems, semantic search engines)

1.12.4 Compliance and due diligence (such as finding missing or non-standard clauses in a large volume of documents)

1.12.5 Assisted e-discovery: reviewing a large body of electronic evidence
1.12.6 Automated filing of documents in internal systems of lawyer and case management (other than e-discovery)
1.12.7 AI assisted overview of the financial situation of a law firm and analysis of its business results (e.g. dashboard, key performance indicators such as amount of work in progress not invoiced yet etc.)
1.12.8 Other
1.12.9 Any other observations in relation to "Barriers and opportunity in the use of certain categories of AI tools"?

6 Annex 2: Overview of all separate answers

201026_CCBE_Answers.xlsx

7 Annex 3: Statistical data for USA-EU-UK comparisons, statistical data for Canada

7.1 Statistics published by the Council of Bars and Law Societies of Europe (CCBE)

On CCBE's website, there is a section containing statistics based on data provided by the member bars and law societies.[139] The "Number of lawyers in European Countries" statistics contain the number of lawyers as provided by the member bars and law societies of CCBE. This means the number of lawyers (as defined in the Lawyers' Services Directive[140]), as opposed to Eurostat statistics on the number of enterprises in a given sector of an economic activity which is based on the number of separate legal units.

Thus, the CCBE numbers only include lawyers who are members of the bar/law society or otherwise have a practising certificate or licence (as the case may be) issued by the bars/law societies. That means CCBE figures do include legal practitioners who make a living from advising clients on legal matters, but who are not admitted to the bar (which is quite frequent e.g. in Nordic countries), but, depending on national special provisions, these figures also include in-house counsel who have to hold a practising certificate or licence.[141]

The latest statistics were available for 2018, but not all bars and law societies were able to provide data for that year. Where not all lawyers were reported (e.g. England and Wales, Ireland), we have included data based on what the given bars or law societies have reported on their own websites (for 2018 if possible). For Italy, we have used the latest available data on the CCBE site (2016).

This data was used as a verification for Eurostat statistics, while keeping the following in mind.

For sole practitioners, the entity appearing in the statistics and the individuals entitled to act as lawyers on their own should be the same.

Other business structures of a law practice[142] may report separately from the natural person licensed as a lawyer – that means that multiple licensed lawyers may be appearing in the statistics under a

[139] https://www.ccbe.eu/actions/statistics/
[140] See note 13.
[141] The question of in-house legal counsels requiring a bar license or a practicing certificate or not, or when do they need this, is very different even within countries of the EU.
[142] Depending on the applicable national rules, such as general partnership, limited liability partnership, corporation or special legal entities such as la société civile professionnelle, l'association d'avocats, ügyvédi iroda etc.

single economic entity. Activities of lawyers employed and salaried by non-law firms will not appear under NACE 69.10 reporting either (regardless of being separately licensed lawyers under the national rules). That leads to the number of licensed lawyers as reported by CCBE being higher than the number of entities conducting legal activities as reported by Eurostat (section 7.2).

If the number of licensed lawyers reported by the CCBE is lower than the number of entities conducting legal activities by Eurostat, that may be caused by the differences in the definition of a lawyer and the Eurostat reporting. Under NACE 69.10 reporting, entities may appear where the operation of a business does not involve any licensed lawyers at all but is still being reported under NACE 69.10.[143] (Further explanations for the possible reasons for difference are laid down in section 2.2.1 above.)

Country (2018)	Number of lawyers
Austria	6325
Belgium	19 286
Bulgaria	13 499
Croatia	4765
Cyprus	3741
Czechia	12 300
Denmark	6456
Estonia	1028
Finland	2124
France	65 480
Germany	164 406
Greece	21 196
Hungary	12 715
Ireland	12 641
Italy	261 891
Latvia	1371
Lithuania	2207
Luxembourg	2461
Malta	N/A
Netherlands	17 672
Poland	40 778
Portugal	31 552
Romania	26 330
Slovakia	6169
Slovenia	1737
Spain	154 573
Sweden	5878
United Kingdom	220 240

The results of the verifications are explained in the next section.

[143] These entities are not considered as “law firms” under section 2.2.1.

7.2 Statistics published by Eurostat (Directorate-General of the European Commission), including for UK (2018)

7.2.1 Source of data

Table sbs_sc_1b_se_r2: Services by employment size class (NACE Rev. 2, H-N, S95) (Database by themes, Industry, trade and services, Structural business statistics, Annual enterprise statistics by size class - services), NACE 69.10.[144]

7.2.2 Definitions used in the source

NACE defines 69.10 **Legal activities** as follows:[145]

"- legal representation of one party's interest against another party, whether or not before courts or other judicial bodies by, or under supervision of, persons who are members of the bar:

- advice and representation in civil cases;

- advice and representation in criminal cases and advice and representation in connection with labour disputes;

- general counselling and advising, preparation of legal documents: in articles of incorporation, partnership agreements or similar documents in connection with company formation and patents and copyrights n preparation of deeds, wills, trusts etc.

- other activities of notaries public, civil law notaries, bailiffs, arbitrators, examiners and referees."

For **persons employed** Eurostat uses the following definition:[146]

"The number of persons employed is defined, within the context of structural business statistics, as the total number of persons who work in the observation unit (*inclusive of working proprietors, partners working regularly in the unit and unpaid family workers*), as well as persons who work outside the unit who belong to it and are paid by it (e.g. sales representatives, delivery personnel, repair and maintenance teams). It excludes manpower supplied to the unit by other enterprises, persons carrying out repair and maintenance work in the enquiry unit on behalf of other enterprises, as well as those on compulsory military service."

7.2.3 Reported basic data for NACE 6910 for EU and UK

2018	Enterprises (all size classes)	Persons employed (all size classes)
Austria	6 029	27 394
Belgium	19 803	38 468
Bulgaria	1 706	3 687
Croatia	4 135	9 936
Cyprus	1 182	5 022
Czechia	13 027	24 509
Denmark	1 979	12 639
Estonia	712	1 828
Finland	1 689	6 258

[144] See at Eurostat, https://ec.europa.eu/eurostat/data/database
[145] https://ec.europa.eu/eurostat/en/web/products-manuals-and-guidelines/-/ks-ra-07-015
[146] https://ec.europa.eu/eurostat/statistics-explained/index.php/Glossary:Persons_employed_-_SBS

France	68 136	177 894
Germany	63 541	306 630
Greece	38 503	45 097
Hungary	9 666	17 306
Ireland	4 934	20 863
Italy	169 560	233 738
Latvia	2 735	4 255
Lithuania	4 165	6 431
Luxembourg	1 749	N/A
Malta	N/A	N/A
Netherlands	20 261	55 933
Poland	51 641	86 274
Portugal	29 943	35 914
Romania	*196	*265
Slovakia	5 928	10 501
Slovenia	2 189	4 195
Spain	89 315	171 584
Sweden	6 309	16 312
United Kingdom	33 515	347 896
EU27	413 447	1 322 933

* For Romania, there is an obvious data error in the Eurostat source. This becomes visible if we cross-check the number of licences reported by the National Union of Bar Associations (see section 7.1, 26 330 licenced lawyers vs. 196 enterprises and 265 persons employed in Eurostat). The reason may be that law firms reported their income to the Romanian financial administration under a different (incorrect) CAEN, e.g. 8423 (Justice and judicial activities). As 8423 is not an economic activity for businesses, figures reported under that NACE code are not publicly available in Eurostat tables.

Based on similar discrepancies, there could be some reporting error behind the relatively big difference for Bulgaria between the 1706 entities reported under Eurostat and the 13499 number of lawyers with licences.

Also, some caution should be taken with regard to the high number of entities per licences for Latvia, Lithuania and Greece: total licenses are merely 50-55% of the total number of entities under 6910, which is difficult to explain for the reasons set out in section 7.1.

The full data, including the corrections used is attached to this overview as Annex 4: Underlying data including corrections and cross-checks.

7.3 Statistics published by the American Bar Association

The American Bar Association annually reports the number of lawyers admitted to state bars in the United States of America.[147] For 2020 it was 1 328 692. However, more detailed statistics of relevance to this overview are not available in the latest report, like the number of sole practitioners, the number of law firms and the size classes of law firms or the rate of private practitioners.[148]

[147] (American Bar Association, 2020b)

[148] That is, lawyers who make a living from clients, and not, like prosecutors or in-house counsel, working in a support function in firms that do not make a living from the economic activities of law firms. The question of

The latest data reported on this was in 2005,[149] but in those 15 years, the total number of lawyers increased by 120.27%.[150] It showed that 75% of all lawyers was working in private practice, and the distribution of lawyers working in a private practice according to firm size classes was the following:[151]

Practitioners by Practice Setting (2005)	**No. of lawyers working**	**%**
Solo	335 608	48.6%
2 lawyer firm	40 252	5.8%
3 lawyer firm	20 964	3.0%
4 lawyer firm	18 584	2.7%
5 lawyer firm	13 808	2.0%
6-10 lawyer firm	43 647	6.3%
11-20 lawyer firm	38 302	5.5%
21-50 lawyer firm	41 833	6.1%
51-100 lawyer firm	26 467	3.8%
101+ lawyer firm	111 523	16.1%
Total	690 988	100%

Firms by firm size (2005)	**No.**	**%**
2 lawyer firm	20 919	44.0%
3 lawyer firm	7 244	15.2%
4 lawyer firm	4 927	10.4%
5 lawyer firm	2 896	6.1%
6-10 lawyer firm	6 296	13.2%
11-20 lawyer firm	2 919	6.1%
21-50 lawyer firm	1 528	3.2%
51-100 lawyer firm	422	0.9%
101+ lawyer firm	411	0.9%
Total	47 562	100%

7.4 Statistics published by the Federation of Law Societies of Canada and Statistics Canada, and estimates made based on the data provided by the Barreau du Québec

The total number of active or practicing lawyers as reported by the Federation of Law Societies of Canada ("FLSC") for 2018 was **93 054**, which number does not include notaries in line with the

which in-house counsels are required to hold a practicing certificate seems to be as diverse in the different states of the USA as in the different member countries of the EU.

[149] See (Carson and Park 2012).

[150] See the statistics (American Bar Association, Historical Trend in Lawyers 1878–2020)

[151] See (Sechooler 2008, pp. 10-11)

definitions of a law firm above.[152] This figure also includes members of the Canadian bars who are not private practitioners.

The same report also includes data on the number of solo practitioners and the number of firms in given size categories, but important data is missing for the avocats and their firms in the Barreau du Québec.[153] We have tried to complete this with estimates from the report of the Barreau du Québec for 2018-2019 (March 2019 data) for the complete number of members (including non-private practitioners) around the end of 2018 (27 581)[154] and for a figure of law firms (total number of SPA and SENCRL as 2019) and that "more than 8000 lawyers" practise their professions in such firms.

But from the "more than 8000 lawyers", it does not follow that the number of solo practitioners in Québec was 19 000, because this number may still include non-private practitioners. For an estimate of the ratio of private practitioners, the figure of "insured" vs. "Exempted From Insurance/Not insured" category has to be used.[155] This gives an estimated 68.73% ratio for private practitioners based on figures excluding Québec notaries. This is important for the demographics of lawyers working in firms as solo or not, as non-private practitioners do not work in law firms. Even this lowered figure gives a very high ratio of solo practitioners for Québec (84.45% compared to the 50.66% national average, excluding notaries).

Based on the size of firm and solo statistics of the FLSC, and the above estimations, we could make a table on the ratio of sole practitioners and firms with 2-10 lawyers out of the total number of firms and solo practitioners, but there is no point in doing that, because the methodology is very different, and we could not compare this with e.g. the US data provided by the ABA 2005 report[156] either.

From the statistics of the federal agency Statistics Canada, we know that of 149 315 employees in the legal activities industry, 40 865 are self-employed (27.37%), but we have no further data as for the share of the employment between size classes like we have for the US, UK or the EU.

Canada was left out of the comparison for the reason that reliable and comparable statistical data was not available for legal activities.[157]

7.5 Statistics published by the United States Census Bureau

7.5.1 Source used

Table CB1800CBP (All Sectors: County Business Patterns by Legal Form of Organization and Employment Size Class for U.S., States, and Selected Geographies: 2018), filtered to NAICS 2017 code 541110 (Offices of Lawyers), legal form: all establishments, employment size of establishment, columns: number of establishments and number of employees,
https://data.census.gov/cedsci/table?q=541110&tid=CBP2018.CB1800CBP&hidePreview=true

[152] (Federation of Law Societies of Canada 2019)
[153] And also for Nunavut, but we left out the latter due to small number of active lawyers there, p. 275.
[154] (Barreau du Québec 2018-2019, p. 13). This probably includes non-active members as well, but based on the FLSC data, the ratio of non-active members in Québec is very low compared to other provinces (only 0,66% compared to 21% for other provinces excluding Chambre des Notaires).
[155] See e.g. the detailed exemption rules of the Law Society Rules of British Columbia 3-43, available at https://www.lawsociety.bc.ca/support-and-resources-for-lawyers/act-rules-and-code/law-society-rules/part-3-%E2%80%93-protection-of-the-public/#43.
[156] See note 149.
[157] https://www.statcan.gc.ca/ Data is published only for "Professional, scientific and technical services [54]", that is, for two levels of depths of NAICS activities instead of at least 4 levels necessary for this industry. Separate analysis for the legal activities industry was not available.

7.5.2 Definitions used

NAICS code 541110 defined as:[158]

"Attorneys' offices, Attorneys' private practices, Barristers' offices, Barristers' private practices, Corporate law offices, Counselors' at law offices, Counselors' at law private practices, Criminal law offices, Estate law offices, Family law offices, Law firms, Law offices, Law practices, Lawyers' offices, Lawyers' private practices, Legal aid services, Patent attorneys' offices, Patent attorneys' private practices, Real estate law offices, Solicitors' offices, private, Solicitors' private practices, Tax law attorneys' offices, Tax law attorneys' private practices".

7.5.3 Basic data

2018	**Establishment (entities)**	**Employees**	**Annual payroll (1000$)**
All establishments	*171 948*	*1 061 706*	*105 828 764*
Establishments with less than 5 employees	125 764	210 552	13 700 056
Establishments with 5 to 9 employees	25 203	163 520	11 411 510
Establishments with 10 to 19 employees	12 039	159 522	13 601 959
Establishments with 20 to 49 employees	6126	182 355	19 321 989
Establishments with 50 to 99 employees	1745	119 702	14 704 753
Establishments with 100 to 249 employees	832	122 978	16 253 442
Establishments with 250 to 499 employees	186	63 169	9 767 678
Establishments with 500 to 999 employees	42	26 453	4 757 245
Establishments with 1,000+ employees	11	13 455	2 310 132

[158] (Executive Office of the President 2017)

7.6 Comparing the concentration of law firms in the EU, UK, USA

7.6.1 Concentration of law firms in EU and UK based on size classes under NACE 6910

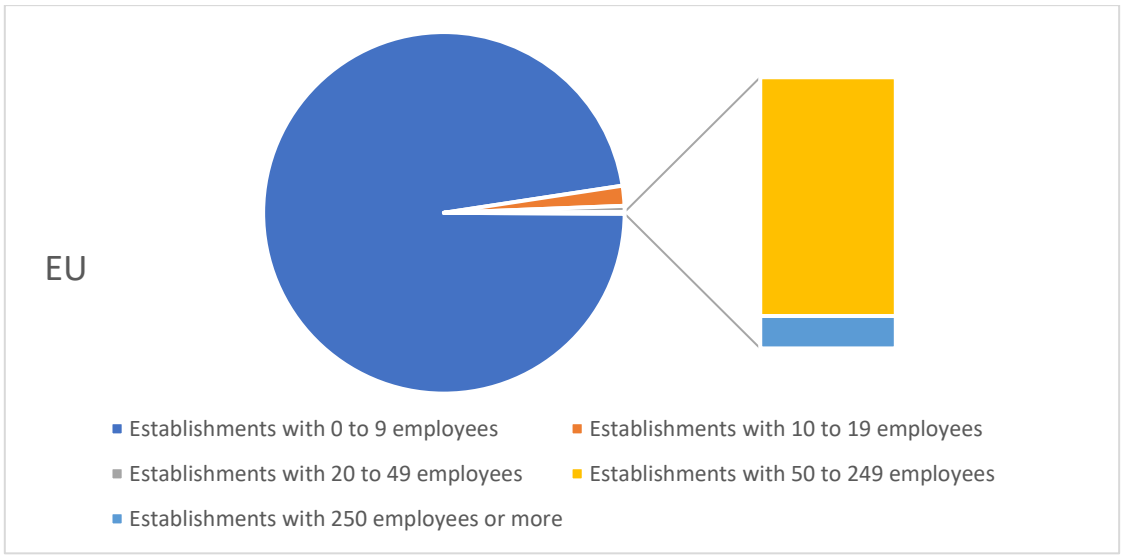
For comparison purposes with the US and UK, we have grouped together law firms into the groups 0 to 9, 10 to 19, 20 to 49, 50 to 249 and 250+ employees based on the number of entities and number of employees (persons employed).[159] Due to the uncertainties involved in the underlying statistical data[160], we have not used the same grouping for revenue data,[161] nor did we use data for Canada for comparison. These figures are not able to take into account coordination mechanisms such as chambers in England and Wales (or other unincorporated associations) regardless of their having an important role in terms of IT tools used.

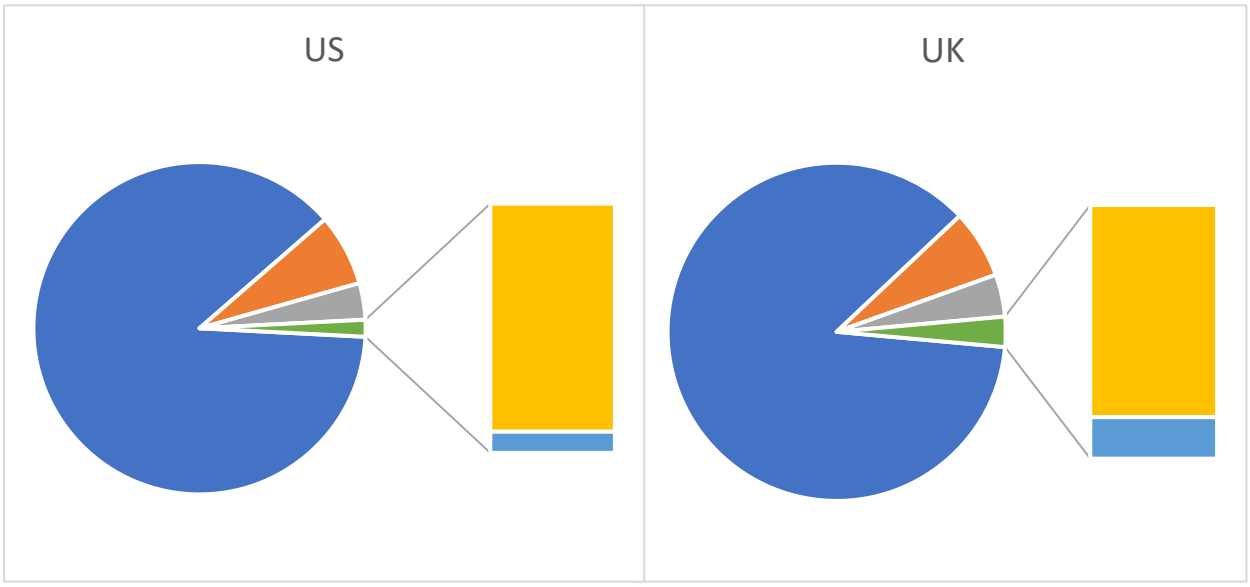
2018 % of establishment of all	**EU establishment**	**US establishment**	**UK establishment**
Entities with 0 to 9 employees	97.52%	87.80%	86.53%
Entities with 10 to 19 employees	1.78%	7.00%	6.54%
Entities with 20 to 49 employees	0.54%	3.56%	4.04%
Entities with 50 to 249 employees	0.13%	1.50%	2.41%
Entities with 250+ employees	0.02%	0.14%	0.47%

[159] This chapter is based on the non-corrected data as provided by Eurostat.

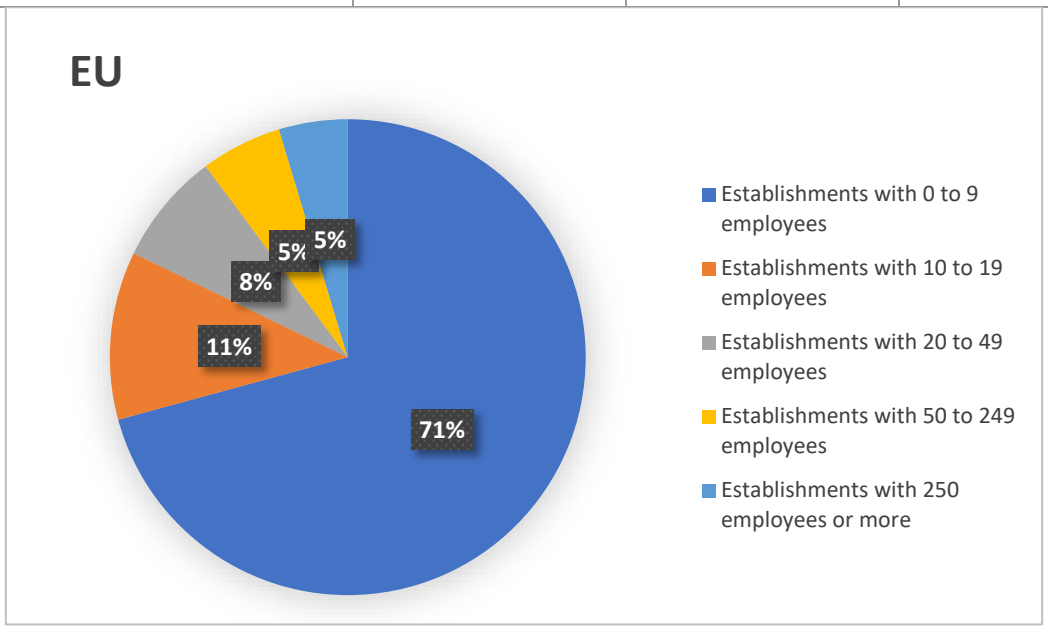
[160] Although the majority of the entities under NACE 69.10 are probably law firms in most countries in the EU, this is not true for the revenue based on the different role and income of notaries in e.g. France.

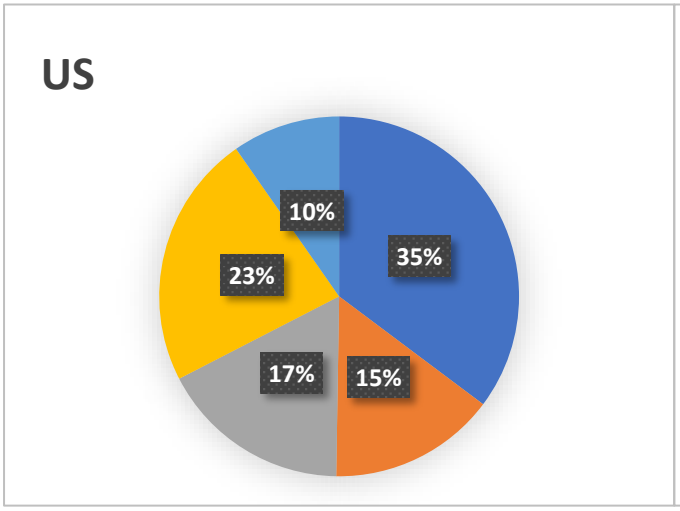
[161] See also the conclusions of (Yarrow and Decker 2012, 72) on the problem of international statistics in this field, (section 184).

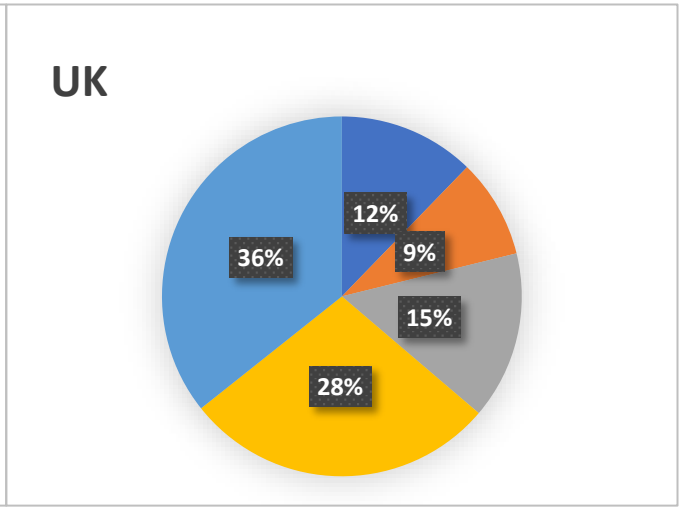

EU
Establishments with 0 to 9 employees
Establishments with 10 to 19 employees
Establishments with 20 to 49 employees
Establishments with 50 to 249 employees
Establishments with 250 employees or more


US
UK

2018 % of employees	EU employees	US employees	UK employees
Entities with 0 to 9 employees	71.44%	35.23%	12.25%
Entities with 10 to 19 employees	11.54%	15.03%	8.91%
Entities with 20 to 49 employees	7.69%	17.18%	15.08%
Entities with 50 to 249 employees	5.56%	22.86%	28.07%
Entities with 250+ employees	4.72%	9.71%	35.69%







Comparing the rate of employees per enterprise per size class:

2018 rate of employees per enterprise	EU	US	UK
Total	2.09765	6.174576	10.38031
Entities with 0 to 9 employees	1.536605	2.47784	1.469485
Entities with 10 to 19 employees	13.56729	13.25044	14.13504
Entities with 20 to 49 employees	29.66479	29.76738	38.71661
Entities with 50 to 249 employees	89.3	94.17152	120.875
Entities with 250+ employees	557.2818	431.2845	785.8608

8 Annex 4: Underlying data including corrections and cross-checks


AI, legal research and legal analytics c


LegalTechReport 2020 Practice Areas (


Canada_statistics.xlsx


Statistics_EU_UK_sbs_sc_1b_se_r22_and_d_comparison_w_nc


US_calculations_an

9 Annex 5: List of the practice management software products mentioned for EU countries

We do not intend to provide a definitive list of practice management software in the EU, however, we wanted to collect all the product names we have uncovered in this regard in a single place.

For the EU countries surveyed, we have found the following practice management products:

BE	AT	CZ	EE	FR	DE	HU	IT	ES	IE
Dlex, Kleos*, Secib*, Avonca, Forelex, Flexsoft (Themis) BaseNet*, Cicero lawpack*	Advokat, JurExpert, WinCaus	SingleCase, Praetor, Advokta, Kleos*, ISAK	LawTime (see question 1.6.1, but wider in scope)	Secib* expert, Secib Néo Jarvis*, Kleos*	RA-MICRO, Rainmaker, WinMACS, Vertec, ACTAPORT, timeSensor LEGAL, AdvoLux, advoware	Justitia, Praxys, eClips, Aktakukac, Flowyer, TimeMind	Netlex (teamsystem), Cliens (Giuffrè Francis Lefebvre), EasyLex, Consolle Avocato, SLPCT	Odoo*[ERP, not PM], Sudespacho	Leap*, Clio*, Keyhouse, ALB Case Management, CORT, PracticeEvolve, Thread, LegalIT/Tikit (UK), HarvestLaw[162]

Products marked with an asterisk (*) mean products that are already marketed in multiple countries (not necessarily EU Member States) with local customisations. Of course, the list is not intended to be complete, it is just a more or less random overview of supply, but is a good indicator of the differences in the opportunities of small law firms, and the possibility or lack thereof of having a cross-national market for such products.

Practice management products mentioned during the interview for the UK were LEAP (of LEAP Legal Software), and LEX (of BarSquared, with the latter only targeting chambers and the Faculty of Advocates with a customisation).

[162] See the Practice Note by the Law Society of Ireland (The Law Society of Ireland 2019)

Products mentioned in the Guide and the Report for the USA were PracticeMaster (Software Technology, LLC.), Clio (Themis Solutions Inc.), Rocket Matter (Rocket Matter LLC.), MyCase (MyCase, Inc.), CosmoLex (CosmoLex Cloud, LLC.), and TimeMatters (of LexisNexis, now operated through a joint venture with LEAP).[163]

10 Annex 6: Summary of the interviews

10.1 Summary of the interview with a lawyer expert from Canada (Ontario)

Peter Aprile, Principal at Counter Tax Lawyers (http://countertax.ca/), 24 November 2020

In relation to major categories and practice areas of small law firms in Canada, the following were mentioned: employment law, tax law and tax litigation, litigation in general, personal injury, business law, family law, wills and estates, real estate, and property (excluding Québec). Usually, the practitioners are generalists, but there is an increasing demand for boutique type of small law firms. The bulk of the lawyers work in small shops.

But the different specialisations do not really show in the IT tools used by the small law firms. For small practitioners, in terms of IT, usually the internet and a laptop are enough, this is not a factor of the specialisation the law firm has. I would define lawyers' approach to IT based on two, very different directions: a) using IT just to be more effective; and b) using IT in order to be better lawyers, to improve the quality of work. The individual choice of the lawyer between these two directions means a lot for defining the IT budget of the law firm. Most law firms set the IT budget and the amount of time spent on IT related matters based on what they perception is in relation to the business efficiencies that can be achieved. For such law firms, IT is just a cost centre. While for the other approach, to improve quality with the help of IT as much as possible, a lot higher IT budget and time is needed, e.g. for development and research purposes. For traditional law firms, this certainly seems a disproportionate IT budget compared e.g. to the number of lawyers or the income this IT will generate in the short term.

In relation to **court representations and electronic filing**. Electronic filing is currently possible with courts and with the Department of Justice (the government provided legal representatives of the internal revenue services etc.). Previously there was some reluctance on accepting documents sent in e-mail. Tax courts now accept online filings, it is possible to use a chatbox now with the Tax Court of Canada. The Federal Court of Appeal of Canada is more advanced in terms of the scope of electronic communications accessible for lawyers, e.g. it is possible not only to file the pleadings electronically, but also to access the pleadings and the history of the file (but not yet the full content of the file). Remote hearings already take place in the provincial courts. Criminal hearings are still being held in person. Federal seem to move quicker in IT compared to provincial courts, although the latter have a much larger caseload. We currently can't see the other side's documents, only what we have filed, it is not a place for exchanging documents with the other party through the court. There are considerable limits in terms of size of documents that can be submitted.

In relation to **the role of the bars and law societies**: They do not provide interfaces, communication channels or services to members. The Ontario Bar Association has recently started to draft a vendor list like the one done by the American Bar Association, especially for solo and smaller practices. But it is not evident that this provides considerable value for lawyers in Canada.

In relation to **practice management**: the first step for a law firm should be to get a practice management software and start using it. Most of the software sold in the USA can be used in Canada as well, with the exception of a few functions, and with some customisations e.g. in terms of billing. My guess would be that 30% of small law firms are using practice management software in Canada.

[163] (Nelson, Simek and Maschke 2020, Chapter 12)

Practice management software in Canada does not currently provide support integration with electronic court solutions (does not provide links to such channels). Within practice management software, our firm is relying heavily on the functions of workflow support and templates (80 workflows, 2000 templates etc.)

Do you think courts could be seen as bottlenecks in electronic communications?

No, I think we should not blame the courts, it is only lawyers that are to be blamed. The only reason why technology doesn't get adopted in law and in other places is because the people don't want it. It's not about the size of law firms or the money law firms have, it's about the value and that lawyers do not see the value in their better support by IT. The only reason we don't use technology is because we don't want it, we don't value it, we don't see why the use of IT would be in our best interest. We currently have no cultural need for software, that's why don't value it, and this leads no IT budget. Lawyers are notorious for not letting go of money even for what they see as good reasons, let alone for reasons they don't believe in. It's due to our training, in a mindset that law school teaches us: if you see your job as billing hours, you don't need technology.

Do you see a specific market for software developers for lawyers in Canada? I don't think so, if the buyers, the lawyers, don't value your product, the developers will not build software for this market.

What else do you use besides practice management software? We are building software from scratch, and from time to time, we think of releasing the software. First, we have tried adopting non-legal software for legal purposes, but it didn't work, so we have started with building our own. Because we are trying to be the best litigator, not to charge the most. It's a "risk in decision" analysis software for tax litigation. This is not about innovation, it's more about what this kind of approach can change in the mindset of people how they approach their work.

In relation to AI: yes, both document automation tools and research tools, some law firms will use a service provider to help them with these types of software. Like a Blue J Legal in Canada. I see small law firms gaining access to these tools. But I can argue that currently most lawyers are not yet equipped to use these tools responsibly, not in a way that best helps their clients. The lawyers will not understand the results that the black box gives them. There are shadows of these tools as well that people should be mindful of, like bias and skewed results. There should perhaps be qualifications for lawyers before they start using these tools.

10.2 Summary of the interview with a barrister expert from United Kingdom, Bar Council of England and Wales

James Corbet Burcher, No5 Barristers Chambers (https://www.no5.com/), 27 November 2020

Average size is more 50-60-100 barristers, very few of the barristers work outside chambers in their "own chamber" or in smaller sets (currently 599 sole practitioners based on Bar Council statistics). But the structure is unusual, because they retain their self-employed and independent status even within chambers, sharing just central services and the use of a clerk.

Do barristers use SW provided by the chamber (as an IT cost centre)? Yes. But they also use some IT software on their own (as a consequence of being self-employed).

Chambers provide the SW used by barristers, but many times it's the client that gives tools to the barrister (e.g. solicitors). Barristers most often use standard IT/Microsoft tools (in video conferencing they had been using Skype for Business, now Microsoft Teams). Traditionally, bars do not have a role in providing IT tools to barristers, nor in development, but they, through many interfaces, keep contact with courts, e.g. in procedure law committees, and are consulted, many times through informal means (such as high court judges being mostly ex-barristers). The Bar Council has committees that work in

relation to this kind of activities (e.g. Legal Services Committee IT Panel), and there are also more speciality focused bar associations in place.

Administrative tasks are partly enforced by the necessities of billing, but partly also by bar standards.

Any major administrative tasks of the lawyer that is not done by the clerk? Barristers have to register their own time, clerks (also called practice managers) cannot do that for them, but clerks build the billing based on that.

Much of the explanation for barristers' use of IT comes from the repetitive nature of the structure of their cases, which usually entails the same few steps: instructions from a client (usually through a solicitor), conference with the client, written opinion, court filings and then court appearance. These steps do not require very sophisticated practice management software in themselves, particularly where each barrister is more or less a self-contained unit.

During the life of a case, barristers usually communicate with clients through email, but larger clients and larger cases often require specific communication tools and ways from barristers (extranets etc.)

Practice management is seen more as a time keeping exercise, that the burden of which is shared by both clerks and barristers

Document management is not really part of a barrister's daily life, but they do have to record certain information on the casefile for documents sent, clerks may do such filings for the case records. Document storage seems to be undertaken through e-mail i.e. since the documents need to be sent by e-mail to the client or solicitor, they can be retrieved later from the messages.

Recent changes and examples? How did e-justice affect this?

COVID-19 changes heavily affected, became almost mandatory in all cases to use electronic court procedures.

Courts provide the portal for such communications, bars are not really involved in development here either, and evidence seems to show that the courts are also themselves using standard IT tools for communication rather than customised ones.

Communication with courts is through PDF files or electronic/digital bundles (but the exact format is not yet part of the code of civil procedures.

Besides in a number of e.g. consumer claims and small claims, the interviewee does not expect a profound change in the automation of court of barristers.

A senior judge, Geoffrey Vos, the incoming Master of the Rolls, was reported as having expressed the wish to shake up the technology of the courts.[164]

On IT and AI uses:

> automated transcription and other litigation tools: very few barristers use it, but its use should spread in the future;
>
> time management (recording activities done in relation to the case and activities to be billed);
>
> document creation: this could be useful e.g., in negotiations or creating other documents (here, the reference was made to non-document assembly type of keeping track of

[164] https://www.lawgazette.co.uk/news/new-master-of-the-rolls-promises-civil-justice-shake-up-/5106491.article

negotiating documents), but not much progress is expected in pleadings or skeleton arguments, because they are very short and concise, not much place for automation.

10.3 Interview with a management consultant with market experience covering both United Kingdom and United States of America

Nicola Moor Miller, owner and president of Jayva (LEAP-certified consultant), https://www.jayva.us/our-team, 4 December 2020

What do you see as the big difference between the IT capabilities of solo practitioners and larger, but still small law firms (2-9 employees)?

Until the last few years, small law firms worked on hybrid systems: they might use the Microsoft Office suite, they usually have the fundamentals like timing or billing systems, but not case management, workflow, or document automation. Just renaming the precedents etc. They have fairly basic knowledge on the technological side, however there was a significant change in the last 5 years, as the cloud-based technologies have become much more accessible. Interviewee says that these systems are very cost effective and easy to deploy, and this changed the behaviour of sole practitioners that started moving to the cloud. Using cloud-based systems may cost them like 100 GBP/month for solo practitioners, but in exchange, the software covers their client accounts, their billing systems, the document management, and that provides mobile access to them. Mobile capability has become a real need for them. Ten years ago, it was rare to see a sole practitioner with a practice management system, they usually just had a bookkeeper to do things for them. Now, the trend is more towards cloud-based technologies for sole practitioners, but also for firms of up to five employees. When you get to the upper end, like 9 users, the needs seem to change a little. Like in the UK, they start to have pockets/departments within the large law firms, and breaking off, having their own operations, demerge etc. At this size, the law firms may want to track their revenue by branch or location. When you get to this 9 users law firm, they start to need more than what the most basic cloud systems may offer. Like branch accounting, user defined fields and screens, which is not available with off-the-shelf systems. A lot of variation comes from the area of law they work in. As a sole practitioner you cover one or two specializations, when you get more users, somebody will just do conveyancing, somebody just litigation etc. Lot of contents, customization comes from the specialization of lawyers, which means that more complex systems needed by more complex practice areas, they need to differentiate the content. For example, if a firm does a lot of residential property – irrespective of its size -, the document automatization is really needed because these kinds of works are high volume, low value activities.

In the legal sector, the US is little bit behind law firms in the UK, particularly in small practices. These small firms in the US are much more manually based. Many of them using e.g. QuickBooks, which is commonly used by accountants, and when people try to migrate away from that, accountants are not that happy with it, and try to dissuade lawyers from it.

For which states is that true?

We usually work in the East Coast, but even here, small firms in southern states are perhaps less technically advanced than the northern ones. We were told they were 700 000 solo and small firms in the US. There is more of a tendency in the US to be more sole practitioners. Have a little office at home or they take an office with other lawyers, but they still have separate companies. They file their taxes as a sole trader, even if they present themselves as a team. While in the UK, people tend more to create new companies together.

What do you see as a driving force behind law firms starting to use practice management?

Historically, like 10 years ago, practice management systems were very costly for law firms, they needed a large capital outlay, they needed to invest a lot of time as well in implementation and training, so there were many barriers. In the UK there was a large consolidation in the legaltech suppliers. That creates a nervousness around the longevity of the products used, that is also a barrier.

A lot of the smaller firms may be paying a paralegal or an external bookkeeper to help them achieve what they could achieve with technology, so in the end it will cost them more, so maybe it concerns also cost benefit. If small firms can have document automation in a software that needs small training, it can be up and running in a week, with a monthly fee only. The legacy and upfront costs, the barriers became lower, by cloud. Now, people can see the benefits more. The increased focus on cybersecurity of the cloud offerings also met with clients increased need for these risks, e.g. if they lose their laptop, it is a big concern for them. Small providers don't need an IT team to support them any more with these cloud offerings.

Do you see differences in the monthly budgets of US law firms vs. UK law firms?

In the US, where we operate, everything is way more expensive compared to the UK. E.g. consultancy (consultants trained as lawyers) is more expensive in the US, e.g. 40% or more. In terms of software, there are a lot more products, with a lot more variation in the functionalities of the products and the price. E.g. one does not have legal forms and accounting, just billing, but that could cost less than 40% of another system that has these.

In a UK group on law firm benchmarking, the spending of large law firms on IT was around 1-8%, for smaller law firms, this was more around 1-2% as standard.

What is the comparison between spending on legal research tools or practice management tools?

They come from the same budget, but there are considerable overlapping functions in knowledge management between practice management software and certain legal research tools like PLC, and practice management software providers try to provide some substitutions for these functionalities, like checklists or finding precedents, they can access library content from the practice management provider's offering.

What would be the killer functionality for a law firm not yet using practice management that could convince them to you use it?

That depends on the type of law that the firm does. Some of these activities are document heavy and bespoke. E.g. in litigation you are using the expertise of the lawyer to generate the content on the specifics of the case. You can't prescribe the content. And in payment protection insurance claims: that's a process, for these works, workflow automation is very important. Complex corporate work will rely heavily on document collaboration tools etc. The foundations of every system are a secure compliant billing system, e.g. keeping time, keeping the local regulatory requirements for clients' money, but otherwise that, I don't think there is one thing that we could call as a killer functionality for all.

What other functionalities would you name as important?

Perhaps a forms library, but recently dashboarding have become very important (e.g. how are they spending their time, what kind of staff is underutilised etc.) and compliance tools, GDPR, anti-money laundering, proceeds of crime. There have recently been horror stories on this for law firms. Many of the practice management tools have audit and reporting tools, so many people look for.

With regard to the US jurisdictions, how possible it is to market the same product for all these different jurisdictions?

It is difficult, each bar has its different rules. E.g. in New Jersey, people are allowed to show people how to put retainers (advance fee payments) in the firm's office account, even if a bill hasn't been raised (issued). In the New England states, this is forbidden, you can't put clients' money on office account, unless you have issued a bill for costs as well. Culturally there is a big difference as well compared to the UK. In the UK, we have a compliant and conservative approach to accounting in law firms, we have a legal cashier or bookkeeper, the reconciliations are done, KYC/AML[165] is done etc. Generally, in the US it is more lenient. Especially in New York, they don't have the same focus on accounting and control. Even there are rules that you have to reconcile at least monthly your client account, I've run into law firms where client money wasn't reconciliated for a year and was overdrawn. This rarely happens in the UK, but they weren't much bothered by it. Within the UK, we have an annual accounts audit, in the US, many of the bar associations don't do this audit, only e.g. investigates if the law firm entire client account is overdrawn.

Did you experience that you can't go to a jurisdiction due to high costs of customizing the product to suit that market?

We moved to the US market in three steps, first to New York and New Jersey, with lots of lawyers, very similar regulation. Next step were the New England states. Even simple changes, like labelling of the products, is very important, e.g. if you use the incorrect term (e.g. docket number instead of legal number), the clients will no longer listen to you when trying to sell the product. We worked together with LEAP on which market we should target: as we moved forward, we get more wide-ranging requirements, and it becomes more difficult to customise the product. A huge amount of content (forms, precedents etc.) became available for New York and New Jersey in 4-5 years, but we wouldn't have this level of content for e.g. Illinois. We have to be aware of the accounting requirements, the data protection requirements as for the location of the data stored, or to have multi-currencies in time and billing software.

Any jurisdictions where you wouldn't go, because they are too small or too different? E.g. in West Virginia or Louisiana?

Not in the US. But we wouldn't go to non-English speaking jurisdictions and multi-currency using entities, because that would make it too complex.

What about the anxieties of small firms due to not being able to export data from the cloud-based practice management? (When e.g. cloud providers go out of business, I could export documents, but I couldn't export transactional data fully.)

Yes, this definitely causes concern. My understanding is that some infrastructure providers have data accessibility rules the provider may release data to customers, or similar controls could be in place. But I think this is going to be a big problem in 5-10 years. E.g. small law firms migrated to the cloud and try to merge into a larger one, cloud is no longer viable for them - getting the data out of cloud is much harder then putting it in. Doing a transactional data migration that pulls every transaction is not possible, I think. E.g. bills, balances, client account information, documents, can be taken out. Maybe they will probably need to keep a read only license, I think this will happen.

Could there be any areas where practice management software could be used as an interface or a building block for tools currently called as artificial intelligence? Like in document management and automation?

AI got a lot of press in 2019, but the focus has changed this year to how we can become more mobile, the need has become more immediate. But, yes, probably, maybe in automated chatbots for client

[165] Know your customer, anti-money laundering.

websites, and also in dashboarding, or to integrate with e.g. RSS newsfeeds to identify possible opportunities to the law firm to engage with employees. So, there are possibilities, but I think this will not happen in the next 12 months.

10.4 Interview with an advocate expert from United Kingdom, Faculty of Advocates, Scotland

Iain G. Mitchell QC, Arnot Manderson Advocates (http://www.arnotmanderson.co.uk/), also practising as a barrister in England and Wales: 10 December 2020.

Question related to the differences between how barristers work in E&W and how advocates work in Scotland:

In relation to specialisation of advocates, as of now, there is a tangible gap between advocates practising in criminal law and advocates practising in other areas (civil law etc.), with some further division still in the latter between tax law and other areas. Though there has been an increase in specialisation within other areas in recent years, specialisation is not as widespread as in England. To practise as advocates, advocates have to be a member of the Faculty of Advocates. The Faculty of Advocates combines the functions of the Inns of Court (=social functions and education), Bar Standards Board (=regulation of barristers) and the Bar Council (=representing barristers, disciplinary). The Faculty of Advocates is a corporation without a specific charter (its founding charted being presumed to have been lost since its foundation around 500 years ago), and fully owns the Faculty Services Limited, which acts as a "super chamber" and is the employer of the clerks of the advocates.

Advocates are all self-employed, and all make use of the services (library, representation, faculty staff etc) provided by the Faculty. Very few of them operate in a way that idoes not make use of the services provided by Faculty Services Ltd (Clerks and administrative support, fee billing and collection etc).

Clerks group themselves into "stables" and work from such stables with advocates, and are paid by Faculty Services Ltd., not by the advocates on an individual basis. However, both the faculty and Faculty services derive their income primarily from a percentage deduction from advocates' fees collected .

The stables are formed by Faculty Services, but there is a fair amount of devolution. The advocates in a stable decide who is to be admitted to the stable (though to prevent "orphan" advocates, the Dean of the Faculty of Advocates has a residual power to require a particular stable to allow an advocate to join.) Also, the members of a stable can agree that they will each make a very small additional payment to the clerks in that stable to have a marketing budget. Faculty Services Ltd. may allow a [very] small element of variation in the clerks' remuneration to match stable performance.

Through Faculty Services Ltd., the Faculty of Advocates provides a number of services to its members, most of these services are included in the Faculty Services' deduction from fees collected for advocates. The services provided include the following:

- invoicing and diary management for advocates by the clerks using the diary and case management system called "Lex system" (the same system which is used in England as a chambers management system for barristers). This does not include any document management functionality (that is usually done on a file/email folders basis by advocates individually) – solicitors usually contact the clerks for booking an advocate and clerks fix the meetings in the diary of the advocate, clerks also discuss and negotiate the fee of the advocate, although prior agreement in the fees is not as frequent in Scotland as in England;

- Faculty of Advocates e-mail box;

- wi-fi at the buildings of the Faculty of Advocates, including consulting rooms for meetings with clients (provided by the Faculty rather than Faculty Services Ltd);

– legal library (best working law library in the UK), again met from the Faculty deduction rather than the Faculty Services Ltd. deduction.

– IT support is provided by Faculty Services Ltd. The main cost of the IT department is covered by the Faculty Services Ltd. deduction, though some servicing requirements are separately charged directly to the advocate concerned. The IT support which is provided includes negotiation of a corporate deal with a mobile provider, currently Vodafone, which provides smartphones at a discounted price to individual advocates who subscribe to the corporate deal. The IT support includes also the maintenance and servicing of smartphones , laptops etc., although advocates make their own individual purchasing decisions in respect of equipment which they purchase from appropriate commercial providers of such things. Individual advocates may also purchase IT support services from providers other than Faculty Services Ltd.

Usually, communications with courts are done by solicitors. Pre-COVID there was fairly limited electronic communications with courts though the extent to which there is such communication has been increasing over time. Currently this is mainly done by unencrypted email but no major problem has so far cropped up. Some problems have happened e.g. due to important communications from the court to solicitors being intercepted by solicitors' spam filters. There is no special court or government system in general use, though there is a special government system which is used only for communication by defence lawyers with the prosecution in criminal matters usually where the exchange of very sensitive documents is needed and there is also a similar system in use for secure communication between Government departments and advocates who are instructed by those departments. In particular, there is no secure system provided for communications with the court.

For remote court sessions, Cisco WebEx, Zoom, Teams are used, but this is not strictly set by the the Scottish Court Service, but by the individual courts (unlike the Her Majesty's Courts & Tribunals Service in England & Wales).https://legal.thomsonreuters.com/en/products/livenote-stream Evidence in trials and civil proofs is recorded by commercial shorthand writer firms. This service is paid for by the Courts. In Scotland, this is used usually only in taking of evidence and at trials. For most cases, the case is simply recorded and transcriptions are provided only on request (for example, for the purposes of an Appeal). Usually it is for the solicitors to pay the cost of transcription. This is essentially the system which existed when the service was provided by human shorthand writers who sat in court. Where the parties wish Thomson Reuter's Live Note to be used, for example because unlike normal shorthand firms, near instantaneous transcripts can be generated this requires to be paid for by the instructing solicitors.

Electronic bundles as PDF files are used by courts.[166]

On the use of AI tools:

– in relation to legal research: there is a basic level of access provided by the membership in the Faculty of Advocates, with possibilities for special addons (such as in Westlaw, Practical Law, Lexis-Nexis etc.), also a good amount of information is also available free of charge (e.g. BAILII, https://www.legislation.gov.uk/ etc.);

– in relation to document assembly: this not really in the profile of an advocate;

[166] For the UK see: https://www.judiciary.uk/wp-content/uploads/2020/05/GENERAL-GUIDANCE-ON-PDF-BUNDLES-f-1.pdf

– in relation e-discovery: this is not a major technical problem in the Scotland in the same way as in the US or England, because of the differences in procedural law – an order for discovery is only granted if that is very specific, only to support an existing averment within the pleadings. E.g. it is not possible to recover unknown documents this way and to substantiate further statements of facts (averments).

10.5 Interview with an expert from United Kingdom, Scotland with experience on managing changes related to implementing new practice/case management software

Lynne Forisky, Head of Member Services at Faculty of Advocates (Faculty Services Limited, http://www.advocates.org.uk/), 21 December 2020.

A video was recorded showing how the LEX system[167] works, showing what kind of major functions it makes available for clerks and advocates (calendaring/diary, billing, contact management, financial dashboards and reporting, task management, currently only with a limited scope of document management, which is a function to be extended in the near future for more storage and functionality), and how do clerks and advocates cooperate with the help of this software. The screens are not reproduced here in the summary.

The interviewee has also described their experience in the preparation and the rolling out of the new system, started in 2019, the need for customizations due to specialities of the Scottish system.

An interesting feature of introducing change was that those who had principal charge of the processes – the advocates' clerks – had often been in post for decades, and that this had been their only employment. This meant that change was harder to introduce.

Nevertheless, the overall profession is small by comparison to many other legal professions, and so this had allowed for more personal service. Training was critical for the success of the system. Ms Forisky said that she had often provided one-on-one training to those individuals who were more resistant to change or unused to electronic processes, to explain what was involved and how easy it was. This personal service would not be available to larger professions. Generally, it seems that the duration of tenure of the clerk or advocate to be trained has a considerable effect on amount of effort required on behalf of the advocate to change their previous habits of working.

The interviewee confirmed that advocates' needs for IT systems were generally rather simple because of the repetitive processes. Of course, the cases were all different, but the processes underlying each case tended to be the same. However, the advantage of the new system, LEX is not only that it simplifies the processes by providing them electronically, but it yielded instant analysis of the business (in a dashboard format): for instance, how much of the overall pie was coming from one client, how much money had been paid and how much was outstanding. This allowed for better planning of the advocate's overall business model.

[167] See https://www.barsquared.com/lex-chambers-management/

11 Annex 7: Bibliography of desk research (at the time of 01.15.2021)

The bibliography contains all the literature cited in the overview and also literature that we have received from the experts prior to the desk research.

Administrative Office of the U.S. Courts. *Electronic Filing (CM/ECF).* https://www.uscourts.gov/court-records/electronic-filing-cmecf (accessed 1/2/2021).

Alarie, Benjamin, Anthony Niblett, and Albert H. Yoon. "How Artificial Intelligence will Affect the Practice of Law." 09 11 2017. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3066816 (accessed 11/06/2020).

American Bar Association. *2020 Legal American Bar Associaton Legal Technology Survey Report.* Chicago, Illinois: American Bar Association, 2020a.

American Bar Association. *ABA National Lawyer Population Survey.* 2020b. https://www.americanbar.org/content/dam/aba/administrative/market_research/national-lawyer-population-by-state-2010-2020.pdf (accessed 30/12/2020).

American Bar Association. *ABA National Lawyer Population Survey: Historical Trend in Total National Lawyer Population 1878-2020.* Chicago, Illinois: American Bar Association, 2020c. https://www.americanbar.org/content/dam/aba/administrative/market_research/total-national-lawyer-population-1878-2020.pdf (accessed 1/3/2021)

American Bar Association. *ABA Profile of the Legal Profession.* 01/07/2020d. https://www.americanbar.org/content/dam/aba/administrative/news/2020/07/potlp2020.pdf (accessed 1/3/2021)

American Bar Association. *Uniform Task-Based Management System.* American Bar Association. 2006. https://www.americanbar.org/groups/litigation/resources/uniform_task_based_management_system/ (accessed 1/3/2021)

Armour, John, and Mari Sako. "AI-Enabled Business Models in Legal Services: From Traditional Law Firms to Next-Generation Law Companies?" Oxford, 2019. http://dx.doi.org/10.2139/ssrn.3418810 (accessed 1/3/2021)

Association for Computing Machinery. *The 2012 ACM Computing Classification System.* https://www.acm.org/publications/class-2012 (accessed 1/3/2021).

AVOCATS.BE, Conseil national des barreaux, Bundesrechtsanwaltskammer, Deutscher Anwaltverein, Soldan Institut, Consiglio Nazionale Forense, Cassa Nazionale di Previdenza e Assistenza Forense, Ordre des Avocats du Barreau de Luxembourg, Abogacia Espaňola. "Legal Profession: Key figures of six countries of the European Union." *Towards a statistical knowledge of the legal profession in Europe.* 2013. https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/Statistics/EN_STAT_2013_Key_figures_of_six_countries_of_the_European_Union.pdf

Barreau du Québec. "Rapport Annuel." *Vous avez droit à un.* Montréal, Québec: Barreau du Québec, 2018-2019. https://www.barreau.qc.ca/media/1885/2018-2019-rapport-annuel.pdf

Carson, Clara N., and Jeyoon Park. *The Lawyer Statistical Report.* Chicago, Illinois: American Bar Foundation, 2012.

Conseil National des Barreaux. “Rapport sur les Legaltech du domaine de la jurimetrie: préconisations d’actions.” Assemblée Générale du 9 Octobre 2020 Groupe de Travail Legaltech, 2020.

Council of Bars and Law Societies of Europe (Future of the Legal Profession and Legal Services Committee) “Document de Travail: L’Intelligence Artificielle et l’impact sur la fourniture des prestations juridiques par les avocats.” 31/07/2018. 2018a.

Council of Bars and Law Societies of Europe. “CCBE considerations on the legal aspects of AI 2020.” 2020. https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/IT_LAW/ITL_Guides_recommendations/EN_ITL_20200220_CCBE-considerations-on-the-Legal-Aspects-of-AI.pdf (accessed 04/11/2020).

Council of Bars and Law Societies of Europe. *CCBE Guide on lawyer's use of online legal platforms.* Brussels, 29/06/2018. https://www.ccbe.org/fileadmin/speciality_distribution/public/documents/DEONTOLOGY/DEON_Guides_recommendations/EN_DEON_20180629_CCBE-Guide-on-lawyers-use-of-online-legal-platforms.pdf (accessed 30/12/2020). 2018b

Council of Bars and Law Societies of Europe. *CCBE Guidelines on the use of cloud computing services by lawyers.* Brussels, 07/09/2012. http://www.ccbe.eu/fileadmin/user_upload/NTCdocument/07092012_EN_CCBE_gui1_1347539443.pdf (accessed 30/12/2020).

Council of Bars and Law Societies of Europe. *Guidelines on electronic communication and the internet.* Brussels, 12 2005. https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/IT_LAW/ITL_Position_papers/EN_ITL_20051230_Electronic_communication_and_the_internet.pdf

Council of Bars and Law Societies of Europe. *Innovation and Future of the Legal Profession in Europe.* Bruxelles: Bruylant, 2017.

European Bank Authority. *Final Report: Recommendations on outsourcing to cloud service providers.* 20/12/2017. https://eba.europa.eu/regulation-and-policy/internal-governance/recommendations-on-outsourcing-to-cloud-service-providers.

European Commission. “COM(2018) 237 final Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: Artificial Intelligence for Europe.” Brussels, 25/04/2018. https://ec.europa.eu/newsroom/dae/document.cfm?doc_id=51625.

European Commission (Directorate-General for Justice and Consumers), Trasys International. *Study on the use of innovative technologies in the justice field.* Luxembourg: Publications Office of the European Union, 2020. https://op.europa.eu/en/publication-detail/-/publication/4fb8e194-f634-11ea-991b-01aa75ed71a1/language-en. http://dx.doi.org/10.2838/585101. (accessed 31/12/2020).

Executive Office of the President, Office of Management and Budget. *North American Industry Classification System.* 2017. https://www.census.gov/eos/www/naics/2017NAICS/2017_NAICS_Manual.pdf (accessed 30/12/2020).

Federation of Law Societies of Canada. “2018 Statistical Report of the Federation of Law Societies of Canada.” Ottawa, 03/2019. https://flsc.ca/wp-content/uploads/2020/02/2018FLSCStatsReport.pdf (accessed 30/12/2020).

Filippidou, Foteini, and Lefteris Moussiades. “A Benchmarking of IBM, Google and Wit Automatic Speech Recognition Systems.” *Artificial Intelligence Applications and Innovations* (Springer Nature Switzerland) 2020, no. 583 (05 2020): 73–82. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7256403/pdf/978-3-030-49161-1_Chapter_7.pdf. https://doi.org/10.1007/978-3-030-49161-1_7. (accessed 2/1/2021)

Flood, John. “Legal Professionals of the Future: Their Ethos, Role and Skills.” 15/01/2019. https://ssrn.com/abstract=3315855 (accessed 11/12/2020).

Gartner Inc. “5 Trends Drive the Gartner Hype Cycle for Emerging Technologies.” 2020. https://www.gartner.com/smarterwithgartner/5-trends-drive-the-gartner-hype-cycle-for-emerging-technologies-2020/ (accessed 12/31/2020).

Gartner Inc. *Gartner Top 10 Strategic Predictions for 2021 and Beyond.* 21/10/2020. https://www.gartner.com/smarterwithgartner/gartner-top-10-strategic-predictions-for-2021-and-beyond/ (accessed 2/1/2021).

Gartner Inc. *Top Strategic Technology Trends for 2021.* 2020. https://www.gartner.com/en/publications/top-tech-trends-2021 (accessed 2/1/2021).

Grimmelmann, James. “All Smart Contracts Are Ambiguous.” *Journal of Law and Innovation, Cornell Legal Studies Research Paper* 2, no. 19-20. (01 2019): 22. https://ssrn.com/abstract=3315703 (accessed 31/12/2020).

Hildebrandt, Mireille , and Bert-Jaap Koops Koops. “The Challenges of Ambient Law and Legal Protection in the Profiling Era.” *The Modern Law Review* (Wiley) 73, no. 3 (05 2010): 428-460. https://www.jstor.org/stable/40660735 (accessed 31/12/2020).

Hofströssler, Patrick, and Patric Henry. “L'avenir de la profession d'avocat.” *Rapport au Ministre de la Justice K. Geens.* 25 02 2018. 654. https://justitie.belgium.be/sites/default/files/rapporttoekomstadvocatuurrapportavenirprofessiond_avocatfinal.pdf (accessed 31/12/2020).

Homoki, Péter. “A nyelvi feldolgozás eszközei az ügyvédi munkában.” *Ügyvédek Lapja* (PanPress Kft.), no. 6 (2019): 38-43.

Hook, Alizon. “The Use and Regulation of Technology in the Legal Sector beyond England and Wales.” 4/7/2019. https://www.legalservicesboard.org.uk/wp-content/uploads/2019/07/International-AH-Report-VfP-4-Jul-2019.pdf (accessed 11/06/2020).

House of Commons. *Court and Tribunal reforms: Second Report of Session 2019.* Justice Committee, London: House of Commons, 2019, 83. https://publications.parliament.uk/pa/cm201919/cmselect/cmjust/190/190.pdf (accessed 2/1/2021).

International Bar Association. “Guidelines and Regulations to Provide Insights on Public Policies to Ensure Artificial Intelligence’s Beneficial Use as a Professional Tool.” 01/09/2020.

https://www.ibanet.org/PPID/Constituent/Multi-displry_Pract/anlbs-ai-report.aspx (accessed 11/12/2020).

KPMG. *Contribution of the UK legal services sector to the UK economy.* London: KPMG UK, 2020. https://www.lawsociety.org.uk/en/topics/research/contribution-of-the-uk-legal-services-sector-to-the-uk-economy-report (accessed 3/1/2021)

Lember, Kätliin. "Tehisintellekti kasutamine haldusakti andmisel (Use of artificial intelligence in issuing administrative acts)." *Juridica*, 10 2019: 749-760.

National Institute of Standards and Technology. "The NIST Definition of Cloud Computing." 09/2011. https://csrc.nist.gov/publications/detail/sp/800-145/final (accessed 2/1/2021).

Nelson, Sharon D., John W. Simek, and Michael C. Maschke. *2020 Solo and Small Firm Legal Technology Guide.* Chicago, Illinois: American Bar Association, 2020.

OECD. *OECD Policy Highlights: OECD SME and Entrepreneurship Outlook 2019.* Paris: OECD Publishing, 20/05/2019. https://www.oecd.org/industry/oecd-sme-and-entrepreneurship-outlook-2019-34907e9c-en.htm. https://doi.org/https://doi.org/10.1787/34907e9c-en (accessed 30/12/2020).

Panteia, Maastricht University. "Evaluation of the Legal Framework for the Free Movement of Lawyers." Zoetermee, 28/11/2012. https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/FREE_MOVEMENT_OF_LAWYERS/FML_Reports___studies/EN_FML_20131125_Study_on_the_Evaluation_of_the_Legal_Framework_for_the_Free_Movement_of_Lawyers__PanteiaMaastricht_University_.pdf (accessed 31/12/2020).

Pyrrho Investments Ltd v MWB Property Ltd. [2016] EWHC 256 (Ch) (England and Wales High Court (Chancery Division), 16/2/2016).

Remus, Dana, and Frank Levy. "Can robots be lawyers? Computers, lawyers, and the practice of law." 27/11/2016. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2701092 (accessed 06/11/2020).

Sako, Mari, John Armour, and Richard Parnham. *Lawtech Adoption and Training: Findings from a Survey of Solicitors in England and Wales.* Oxford: University of Oxford, 2020, 20. https://www.law.ox.ac.uk/sites/files/oxlaw/oxford_lawtech_adoption_and_training_survey_report_18_march_2.pdf (accessed 31/12/2020)

Sechooler, Adam. "Globalization, inequality, and the legal services industry." *Journal of the Legal Profession* 15, no. 3 (2008): 231-248. https://www.tandfonline.com/doi/full/10.1080/09695950902785861 (accessed 31/12/2020)

Slingo, Jemma. "New master of the rolls promises civil justice shake-up." *The Law Society Gazette*, 20/11/2020. https://www.lawgazette.co.uk/news/new-master-of-the-rolls-promises-civil-justice-shake-up-/5106491.article (accessed 2/1/2021).

Tehver, Jaanus. "Kohtumenetluse digiteerimine: ootused praegu ja tulevikus (Digitization of justice: expectations now and in the future)." *Kohtute aastraamat (Court yearbook).* 2019. https://aastaraamat.riigikohus.ee/kohtumenetluse-digiteerimine-ootused-praegu-ja-tulevikus/.

The Law Society. “AI: Artificial intelligence and the legal profession.” *The Law Society Website, https://www.lawsociety.org.uk.* 01 05 2018. https://www.lawsociety.org.uk/topics/research/ai-artificial-intelligence-and-the-legal-profession (accessed 04/11/2020).

The Law Society. *Algorithm in the criminal justice system.* 04/06/2019. https://www.lawsociety.org.uk/topics/research/algorithm-use-in-the-criminal-justice-system-report (accessed 04/11/2020).

The Law Society of Ireland. “Case management systems – practical advice and potential suppliers.” 06 09 2019. https://www.lawsociety.ie/Solicitors/Practising/Practice-Notes/case-management-systems--some-practical-advice-and-potential-suppliers/?filters=&location=&category=&area= (accessed 7/1/2021).

Themis Solutions Inc. *2020 Legal Trends Report Published By Clio.* 2020. https://www.clio.com/resources/legal-trends/2020-report/ (accessed 20/11/2020).

Wickers, Thierry. “L'intelligence artificielle et la justice.” *Cahiers de Droit de L'Enterprise* (LexisNexis), no. 4 (2019): 33-36.

Wickers, Thierry. “Working Document: Artificial Intelligence and the Use of Artificial Intelligence by Courts.” CCBE Future Committee, 2019.

Wolters Kluwer. “The 2020 Wolters Kluwer Future Ready Lawyer.” *https://www.wolterskluwer.com/ Wolters Kluwer corporate website.* 05/06/2020. https://know.wolterskluwerlr.com/2020-Future-Ready-Lawyer (accessed 06/11/2020).

World Trade Organization, Council for Trade in Services. *Legal Services: Background Note by the Secretariat.* 14/06/2010. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/S/C/W318.pdf&Open=True (accessed 24/12/2020).

Yarrow, George, and Christ Decker. *Assessing the economic significance of the professional legal services sector in the European Union.* Oxford: Regulatory Policy Institute, 2012. http://www.rpieurope.org/media/publications/RPI_study_Yarrow_D1_1348650358.pdf (31/12/2020).

12 Annex 8: List of abbreviations used

API application programming interface

CCBE Council of Bars and Law Societies of Europe

CRM customer relationship management

ERP enterprise resource planning

Guide (Nelson, Simek and Maschke 2020)

Report (American Bar Association 2020a)