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Guidelines on electronic court filing (e-filing) and digitalisation of courts

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Introduction

The Working Group on Cyberjustice and Artificial Intelligence of the Commission for the Efficiency of Justice (CEPEJ-GT-CYBERJUST) of the Council of Europe was entrusted with the development of tools to offer a framework and safeguards to member states and justice professionals willing to create or use information and communication technologies (ICT) and/or mechanisms of artificial intelligence (AI) in judicial systems with a view to improve the efficiency and the quality of justice.

In September 2020, CEPEJ-GT-CYBERJUST decided to launch its work on electronic court filing (e-filing). A report on the topic[1] was finalised in April 2021, namely "Analytical overview of the state of play in electronic court filing (e-filing) in selected member states of the Council of Europe". The present Guidelines on electronic court filing (e-filing) and digitalisation of courts are based on the findings of this report.

The work under the above-mentioned study on electronic court filing has been guided by two key notions: (1) the implementation of digital solutions in judiciary should be understood as a systemic and comprehensive reform – that goes well beyond the technological; and (2) e-filing and digitalisation of judicial procedures are ongoing processes that are part of a complete ecosystem of services be they digital or not, rather than separate projects with a firm timing of implementation. Same concepts underline the present guidelines.

The Guidelines are based on the understanding that an e-filing system should establish a digital channel that enables the interaction and exchange of data and e-documents between courts and court users[2]. Such a concept requires a change that involves not only making use of up-to-date technologies to support the work of the judicial systems, but also reflecting on the legal, organisational, and socio-cultural considerations that affect the functioning of the judicial bodies. Similar example can be given with the circular nature of the digitalisation of judicial procedures that requires standardization and simplification of processes in several instances followed by legal modifications affecting the rights of those involved in each process, which in turn may require operational adjustments, and so on.

Guiding principles and key concepts around which the Guidelines are centred are also presented to provide contextual information. These principles are considered essential elements of any e-government strategy in light of the debate on all-round digitalisation in the last decade; thus, they have been extrapolated for the purposes of the present guidelines with regards to their relevance to the judicial context. Further, each judicial information system – no matter of its purpose and/or functionality – should be deployed with the core judicial values in mind.

The Guidelines are then divided into three parts: one covers governance and legal aspects towards building a complete ecosystem of electronic judicial services; the second one refers to socio-cultural and organisational aspects to support the development of an e-filing system from a user perspective; and a third category is focused on the technical aspects to be considered. An appendix contains a checklist for states to reflect on the basic requirements towards deploying an e-filing system.

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[1] (CEPEJ-GT-CYBERJUST(2021)2)

[2] The scope and functionalities of an e-filing system, as presented in these Guidelines, are expanded based on the work of Cordella A. and F. Contini (2020), Digital Technologies for Better Justice: A toolkit for Action, Inter-American Development Bank/World Bank, Washington D.C., https://publications.iadb.org/en/digital-technologies-for-better-justice-a-toolkit-for-action. DOI: https://doi.org/10.18235/0002297

Purpose and Scope

The Guidelines provide a set of key measures that states should follow when designing and implementing an e-filing system and pursue digitalisation of courts, thus establishing a digital channel that enables the interaction and exchange of data and e-documents between courts and court users (i.e., parties to the proceedings, lawyers and/or legal practitioners, (expert) witnesses, and/or other actors involved in judicial procedures).

The Guidelines are built upon the understanding that each state has already provided for (or has taken measures to ensure) required supporting activities and infrastructure facilities including network, hardware, software, development, and maintenance, sufficient to operate an e-filing system following up-to-date common criteria and standards for information technology development, high availability, scalability, information security, and (data) quality management.

For the purposes of the present Guidelines, e-filing is considered limited to the communication between courts and court users and does not cover system-to-system integration processes and exchanges of data and e-documents between systems deployed by criminal justice actors (i.e., courts, prosecutor's offices, law enforcement agencies).

While the Guidelines could be used as a baseline for all judicial proceedings, differences occur between e-filing requirements for civil, administrative, and criminal proceedings from one jurisdiction to another. The unique institutional, legal, and technological context of each state must be considered when an e-filing system is planned, designed, and implemented.

Thus, the Guidelines deliver a framework for an e-filing system (a) enabling a party to start a judicial proceeding by issuing and receiving electronic documents, exchange procedural documents with other parties involved in the proceedings and with judges/prosecutors, send and/or receive notifications and summons electronically, pay court fees online, and/or access a secure repository of all procedural documents as part of the document management system; and (b) providing an efficient and effective treatment of data for all users involved. Should only a limited set of the e-filing functionalities be introduced, the respective subset of requirements listed in the present Guidelines is still applicable.

Definitions

For the purposes of these guidelines, the terms below shall be defined as follows:
   i. **electronic document** (or **e-document**) means any content stored in electronic form, in particular text or sound, visual or audio-visual recording
   ii. **electronic identification** (or **e-identification**) means the process of using person identification data in electronic form uniquely representing either a natural or legal person, or a natural person representing a legal person[3]
   iii. **electronic signature** (or **e-signature**) means data in electronic form which is attached to or logically associated with other data in electronic form, and which is used by the signatory to sign[4]
   iv. **electronic court filing** (or **e-filing**) refers to technological solutions facilitating access to justice by establishing a digital channel that enables the interaction and exchange of data and e-documents between courts and court users
   v. **internal users** refer to judges, prosecutors, and other judicial bodies' personnel involved in administering judicial proceedings
   vi. **external users** refer to parties to the proceedings, be they citizens, private companies, public institutions, lawyers and/or legal practitioners, (expert) witnesses, and/or other actors involved in judicial procedures.

Guiding Principles

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[3] Definition in line with Regulation (EU) No 910/2014 of the European Parliament and of the Council of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC
[4] Ibid.

The framework of the present guidelines is based on the fundamental legal principles on which judicial proceedings are based.

A. Rule of law operates both as a general principle and as a set of rules governing justice, judges, prosecutors, legal professions, and judicial proceedings. Rule of law refers to all members of a society being considered equally subject to publicly disclosed legal codes and processes. Any (new) legislation regarding digitalisation should be clear, transparent, and predictable. Moreover, it should provide for disputes that might emerge from the digitalisation itself and ensure that the legal rights of all users of digital justice are protected.

B. Independence of the judiciary is the main component ensuring the rule of law. Rules, laws, and practices driven by (and/or needed for) digitalisation should not have any negative impact or jeopardise the independence of the judiciary, the judges and the lawyers.

C. All guarantees to a fair trial apply to digitalised judicial proceedings. Changes to the rules of procedure due to digitalisation of proceedings, including acts and documents, should be made in compliance with the right to a fair trial.

D. The design and implementation of digitalised judicial proceedings should be non-discriminatory.

E. Access to an effective judicial remedy shall be granted in case any user's basic rights are negatively impacted or harmed by the use of the technology. In case of procedural consequences resulting from the use of the technology or the momentary or erroneous malfunctioning of the latter, remission in terms of time should be guaranteed as a minimum.

F. Data protection principles, including with regards to quality and security of the processing of judicial data, shall be ensured.

Further to the above, the following principles are considered essential elements of any e-governance strategy; thus, they have been extrapolated for the purposes of the present Guidelines and incorporated with regards to their relevance to the judicial context.

G. "Digital by default" is a principle with both organisational and technical dimensions and strategic importance and should be implemented as such. In general, it refers to providing public services by digital means as the preferred option for people to use them, i.e., digital services that are so straightforward and convenient that all those who can use them will choose to do so whilst those who cannot or are not willing to are not excluded.

H. Inclusiveness and accessibility are key dimensions of effectiveness towards achieving the digital-by-default principle. User centricity allows the judiciary to take the needs and voices of all end-users (be they internal or external ones) into account when designing, delivering, implementing, and evaluating digital solutions and services, also taking into consideration the digital divide obstacles that the use of technology may bring.

I. Inclusive processes require access to information. Openness and transparency lead to better accountability and trust building. Traceability of information and communications helps monitor the implementation of procedural rules and professional duties and can provide better understanding and appreciation of citizens and businesses with respect to the judicial services they are using.

J. Requirements for performance, security, and integrity of information – together with data protection by design[5] and by default[6] – play key roles in the exchange of information among parties involved in a case, while high quality and efficiency of this exchange is strongly expected.

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[5] Taking into account the state of the art, the cost of implementation and the nature, scope, context and purposes of processing as well as the risks of varying likelihood and severity for rights and freedoms of natural persons posed by the processing, the data controller shall, both at the time of the determination of the means for processing and at the time of the processing itself, implement appropriate technical and organisational measures which are designed to implement data-protection principles in an effective manner and to integrate the necessary safeguards into the processing in order to meet the respective data protection requirements and protect the rights of data subjects.

[6] The data controller shall implement appropriate technical and organisational measures for ensuring that, by default, only personal data which are necessary for each specific purpose of the processing are processed.

K. Data management and preservation of information become essential not only concerning compliance with existing legislation and standards but also concerning the provision of reliable, up to date and accurate case-related (meta-) data in case management systems, including in the context of minimizing efforts by court officials in checking and/or performing data remediation or completion. This matter is also related to the exhaustiveness and quality of information stored in the judicial databases. Proper knowledge management enabling data correlation and effective searches and introducing complex analytical functionalities is increasingly seen as valuable by judicial authorities.

L. Interoperability is considered the ability of both systems and business processes to support the exchange of data effectively and efficiently and to enable the sharing of information and knowledge. However, it should not only be seen solely as a technical concept but rather a complex construct also encompassing policy, legal and social dimensions.

M. Lack of proper assessment tools for the effectiveness of data exchange is concerning. This need is strongly linked to needs assessment and prioritization of (new) measures, better allocation of resources, and monitoring of management processes at all levels for better implementation of any strategic reform and/or changes introduced in the judiciary.

Key Concepts

Considering key judicial values an e-filing system should comply with, the following concepts lay down the foundation for the present Guidelines:

a) An e-filing system should facilitate access to judicial information, hence, to justice, and provide for accountability, while balancing between access and protection of personal data and – where and if applicable – between access and protection of professional secrecy.
b) An e-filing system should be fully compliant with existing laws and international standards.
c) An e-filing system should be deployed in an efficient, effective, and timely manner making the best possible use of available resources.
d) An e-filing system should be designed with high degree of transparency and accountability with regard to its performance, procedure flows, and decision-supporting processes.
e) An e-filing system should be developed with the concept that it should endure institutional changes and that it is to be constantly updated during its lifetime. Thus, during planning and design stages both short-term performance and evolving abilities must be considered.
f) The unique state's institutional, legal, and technological framework must be embedded into the design of an e-filing system.
g) Digitalisation should not be seen as an independent technology development. It requires a reform incorporating both technical and legal requirements and strong institutional commitments.
h) A clear and well-defined legal framework facilitates the successful planning, design, and development of an e-filing system. Hence, deploying an e-filing system needs sustainable legislative support.
i) Certain preconditions should be met towards successfully deploying an e-filing system: reliable and secure network, presence of sufficient technology-related skills and competences, and open infrastructure to facilitate data sharing and operational coordination with other national/cross-border systems.

<center>**Part I – Governance and Strategic Matters**</center>

All-round Strategy and Vision

1. Implementation of digital solutions in judiciary should be understood as a systemic and comprehensive reform that goes well beyond the technological one. Digitalisation of judicial procedures and e-filing are ongoing processes that are part of a complete ecosystem of services be they digital or not, rather than separate projects with a firm timing of implementation.

2. Assuming a management perspective with a view to modernisation, simplification, and rationalisation, e-filing should be embedded as part of a clear overarching all-round strategy converting the way that justice is delivered to people and businesses. Judicial transformation should bring justice closer to people improving responsiveness and efficiency of services.

3. Policy guidelines and commitment on the various areas of judicial activity, including e-filing, should be present encompassing strategic, organisational, and technical measures. Amendments to the legislation with respect to strategic, organisational, and social developments underlying judicial digitalisation is considered highly important to facilitate such reforms.

4. E-filing processes should integrate elements of administrative simplification, service improvement and user-centricity to strengthen trust in judicial institutions and improve the perception of justice. Transparency, accountability, and inclusiveness are to be incorporated as guiding underlying principles.

5. Any strategy on digitalisation of judicial procedures, evolving on e-filing objectives, should be aligned or integrated with national and Europe-wide digitalisation strategies to build upon existing progress and ensure long-term efficiency and effectiveness.

Dedicated Legislation

6. Dedicated e-justice(-related) legislation should be considered a prerequisite for successful digitalisation of judicial procedures striving for formalisation, simplification and/or dematerialisation, and uniformity of the processes, pursuing a proper balance between technical specifications and flexibility with respect to specific use cases.

7. Dedicated e-justice(-related) legislation, if opted for, should be designed as a coherent stand-alone regulation while aligned with existing acts, including with respect to e-government ones, if needed. Patch works or overcomplications are to be avoided. Once adopted, the legislation should be regularly reviewed and assessed to reflect on existing needs but updated with caution.

8. While legislation should provide for procedural uniformity and standardisation, it should also provide to a certain extent for flexibility to facilitate the various exceptions and specific use cases that might occur while transforming judicial procedures or with respect to different technological solutions that could be deployed or could evolve in the future.

9. Where the digitalisation of judicial procedures also relies on the judiciary to invest in new uses of technology (e.g., artificial intelligence systems or blockchain technology, where the nature of the technology imposes limits to its control once enforced), introducing and approving new legislation to legitimise technological advancement should be pursued with caution.

10. Judiciary could adopt novel regulatory practices to respond in a more agile way[7] to innovation and disruption, better grasping the opportunities and mitigate the risks. However, techniques such as anticipatory regulation[8], outcome-focused regulation[9], experimental regulation[10], or data-driven regulation[11], are still not supported by significant evidence on their long-term efficiency and effectiveness

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[7] Agility implies an action or method of nimbleness, fluidity, flexibility, or adaptiveness. In the software sector, the concept of agile or "agility" value outcomes over rules, responding to change over following a plan, encouraging wider participation over control, and fostering self-organization over centralized government. It introduces an iterative approach to project management and software development that helps organizations deliver value by working in small, but consumable, increments; refers to a way to manage a project by breaking it up into several phases; and involves constant collaboration with stakeholders and continuous improvement at every stage.

[8] The concept of anticipatory regulation refers to identification of changes beyond the domain in question over a given period and consideration of the implications of these changes (jointly or individually) for the regulator's current and future approaches, i.e., with regards to the impact of technological innovation.

[9] Also known as goal-based regulation, it places focus on the achievement of "real-world" outcomes for end-users and the environment and defines high-level goals that stakeholders' actions must achieve using their own judgement (by employing or combining such techniques as experimentation clauses and regulatory guidance). It is distinct from prescriptive rules-based regulation, which defines in advance precisely what actions stakeholders must or must not do. See also *United Kingdom Government, Department for Business, Energy & Industrial Strategy (BEIS), "Goals-based and rules-based approaches to regulation", BEIS Research Paper No. 8, May 2018.*

[10] Experimental regulation refers to a process of learning and adaptation, where regulators engage with businesses on ideas, products, and business models to learn how both parties need to adapt to enabled innovative products and services to be brought to market efficiently.

[11] This concept refers to introducing rules as machine-readable code and is also known as machine-consumable regulation. Data-driven technologies enable a new approach to regulation, in which interventions may be finely targeted, outcomes may be monitored in real time and rules may be evaluated and updated at pace. As systems mature, regulators could use the data gathered to help model the effects of future changes to their code, and businesses could execute changes to their systems much more rapidly, enabling a much more agile governance system. See also *World Economic Forum, "Agile Regulation for the Fourth Industrial Revolution A Toolkit for Regulators", December 2020, p. 27-31.*

in comparison to the exciting pool of regulatory practices; thus, their usage and impact should be carefully monitored and evaluated if implemented.

Governance Strategy

11. An effective and efficient judicial transformation programme requires strong political will, all-embracing management approach, and broad stakeholder involvement.

12. Strategy implementation and imposing of legal obligations should be backed by adequate means of planning for their attainment, thus translating the judicial transformation programme into concrete actions. Digitalisation of judicial procedures, including e-filing, should be complemented by a comprehensive digitalisation and modernisation package of measures and a clear roadmap indicating details on the necessary changes and expected impacts. E-filing measures may vary from electronic notifications and real-time verification of legal status during authentication, through simplification and dematerialisation of procedures, to interactive publication of official judicial statistics. Whatever the range of measures is, it should reflect the national needs for further advancement in the judicial domain and strive for simpler, digital, and open judicial services and their optimised delivery.

13. Such a package of measures should take in consideration the medium- and long-term objectives to be achieved, where long-term planning builds on the medium-term achievements to preserve accomplishments and ensure continued progress.

14. All measures should be accompanied by reasonable and measurable key performance indicators to ensure proper monitoring of their efficiency and efficacy as well as timing. This process could be supported by a dedicated indicators management system to further enhance monitoring and development of internal procedures aiming at digital transformation.

15. All measures should be continuously adjusted to reflect the needs of various stakeholders of the justice system, be they internal or external users. Complementing change management[12] measures to promote a mindset for continuous improvement could be introduced.

16. Governance of e-filing architectural aspects also needs to be continuously ensured through comprehensive reviews and checks, to guarantee a functionally oriented overall architectural design and coherent individual initiatives, projects, and actions.

Collaborative Stakeholder Involvement

17. The design of an e-filing concept or a dedicated roadmap should engage users and allows every stakeholder to submit feedback for the improvement of the implementation strategy from the very beginning of the process. Such co-optation guarantees the involvement of internal and external users along the way and provides an opportunity for more collaborative, participatory, and transparent e-filing delivery.

18. Introducing user centricity and establishing user-friendly and responsive system design for all types of users is a must for a successful e-filing initiative. This entails a collaborative bottom-up approach and extensive stakeholder engagement in defining applicable e-filing requirements and implementing measures. Allowing stakeholders to actively participate in the improvement of judicial procedures and their digitalisation also facilitates the future uptake of the system.

19. Inclusiveness is praised as a highly beneficial management approach that builds trust in the transformation framework and promotes broad cultural change and transparency. This could be achieved by building a community of end-users (internal and/or external) to participate in the e-filing system's design and implementation or establishing working groups of internal users and/or representatives of external stakeholder groups to be involved in organisational measures, e-filing system's development, testing and deployment stages, solving practical or legal issues, providing feedback on and/or testing different functionalities prior to their adoption, etc., all implemented in a timely manner.

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[12] Change management is used as a collective term for all approaches to prepare, support, and help individuals, teams, and organizations in making organizational change. Drivers of change may include, among others, the ongoing evolution of technology, internal reviews of processes, and organizational restructuring.

20. Setting up experimental laboratories engaging key users to support the initial design and development of an e-filing system or a particular innovative feature could be an advantage depending on the size and timeframe of the project.

21. Continuous involvement of end-users, especially representatives of the legal professions, is considered a key success factor in the deployment of an e-filing system. The "ambassador approach" (guiding notable end-user communities' representatives to identify shared interests, values, or experiences with members of their communities and promote the project) is considered hugely salutary especially in the early piloting stages, when the e-filing system still experiences various problems.

Strong Commitment to the "Digital by Default" Principle

22. Both strategy and legislation should embed the "digital by default" principle while also considering the existing culture, community readiness towards adoption of digital tools, and digital skills' levels (both within judicial communities and from the end-user perspective of citizens and businesses as they might be different). Nevertheless, these aspects should not block the reforms but rather provide a realistic starting point towards a more gradually introduced changes.

23. Imposing strict obligations should be (self-)regulated by levels of readiness, transition periods and successive measures.

24. Fostering digitalisation by obligatory measures could be beneficial only if relevant supporting measures and infrastructure facilities (including network, hardware, software, development, maintenance, and assistance) are already in place. Sufficient levels of communities' digital culture and skills could be considered as well. A gradual adoption approach might be preferred in states where major national developments are still ongoing or underway.

25. Delivering judicial services digitally as a preferred option should be adopted, while keeping other channels open for those who are disconnected by choice or necessity or with respect to certain types of cases/procedures. Nevertheless, fostering digitally native documents should be a priority.

26. Exchanging data (such as individuals' identification data and social status, company data, property data, etc.) with third-party systems should be seen as a necessity rather than a conformity when developing an e-filing system. Semi-automation or limited integration with external systems should be envisaged only as a temporary solution where key facilitating platforms or integration processes are underway.

Part II – Organisational Aspects

Rational Resource Allocation

27. Digitalisation of judicial procedures and e-filing implementation, along imposing of legal obligations to facilitate such reforms, should be adequately mapped with available information technology, human and financial resources. Allocation of resources should follow the principle of sustainability, considering the entire lifespan of a project or a system and not only its development costs.

28. Funding should be secured independently from third-party sources and underpin the no-savings concept.

29. Engagement of internal resources for development and maintenance of judiciary systems should be encouraged, in order to avoid procurement delays and improper spending and to ensure knowledge preservation and continuity. However, where public procurement is necessary, the development of a proof of concept, a prototype or a minimum viable product could be envisaged to ease the stakeholder understanding of the processes and features from an early stage. In any case, the timeframe for the e-filing system development should envisage possible delays in resources' allocation as well as possibilities for dynamic alignment with related projects or measures.

30. When it comes to human resources, judiciary should focus not only on ensuring adequate and large-enough technology teams, but also on the proper and long-term involvement of both judicial experts and legal practitioners (having knowledge on the exact procedural rules and needs from within) and experts in organisational transformation, change management, communication, etc. that could support the judiciary in shaping new ideas, using proper collaboration tools and building trust by communicating the changes in the most relevant manner to the audience.

31. Adoption and monitoring of key-performance indicators and assessments with regards to the return of investment, cost management and savings-of-human-resources should be encouraged.

Agile Project Management

32. Regarding delivery of an e-filing system, the successive staged approach should be considered. Step-by-step implementation and prioritization of projects should be based on relevant impact-based considerations with respect to bringing most value to end users, affecting high volume of cases and/or procedures, low-risk operations and procedures, etc. Procedure-by-procedure or domain-focused approach could be also considered only if a clear vision and timeframe are established towards a complete and all-purpose e-filing solution.

33. During project planning, prioritization of (sub-)measures should be based on a variety of expected-impact, value-for-money, and risk-management considerations. Depending on national priorities related to building trust and promoting broad cultural change and transparency, in some cases prioritisation could be given to services provided directly to citizens and businesses.

34. If opted for, the Agile approach on both organisational and development levels should be considered from the very beginning and adopted with increased attention on expected results and strict time management procedures.

35. Securing adequate resources on project management should not be underestimated. The underlying management methodologies should be understood by both judicial experts, respective management bodies, and IT development teams (be they internal or not). Engaging acting judicial officials and magistrates in co-managing could be beneficial depending on their availability; should this approach be implemented, allocation of proper time spent on the project lifecycle and development of relevant management skills is a must.

36. Experimental culture should be encouraged considering the long-term benefits of the experimental sampling mechanisms (proofs of concept, prototyping, experimental releases, piloting, etc.) and the added value towards engaging stakeholders, promoting co-optation, and facilitating the acceptance of the tools by the users.

37. Organisational transformation of the judicial bodies' back-offices should complement any e-filing project. Deploying continuous improvement and impact management methodologies and techniques could be beneficial to attain holistic and sustainable change.

Complexity Constraints

38. Successful digitalisation of judicial procedures and e-filing implementation require reconfiguration or redesign of core judicial processes to achieve improvements in productivity, cycle times and quality, rather than their mere replication with electronic means. Designing the future state for each process without regard for current constraints should be encouraged; once a compelling future state is described, complexity constraints (e.g., legally required checks) should be reintroduced to ensure legality of proceedings. However, where legacy system architecture should be taken into account, its constraints are to be embedded in the new design in such a way to allow continuous service delivery during future architecture updates.

39. Automated operations (e.g., automated case assignment, summons, notifications, case tracking, case relationship management, scheduling, reporting, etc.) and features minimizing workload efforts (e.g., introducing templates with variable content, pre-filled data, notifications on contradictory citations of the law, etc.) should not be seen as complementary measures but embedded in the e-filing design.

40. A mobile-first approach[13] should be adopted in designing new systems as it leads to a design that is more content-focused, and therefore user-focused. Such an approach brings a new perspective on the complexity of the proceedings and eliminates redundancies in both texts and actions.

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[13] Mobile-first approach is a strategy based on responsive design: the interface is designed for the smallest device possible and then scaled upwards to automatically adapt to larger devices and desktop computers. It organically leads to a design that is more content-focused, and therefore user-focused.

41. Considering the legal complexity and interparty dependencies, any further e-filing involution of organisational or technical nature should be avoided (e.g., features not directly linked to e-filing needs, too complex navigation, too complex user experience design, etc.).

User Centricity

42. User-centric way of service delivery is a strategy that is based on putting the user first and at the core of the business process to provide a positive experience and build long-term relationships. This requires not only to anticipate users' needs but also to create processes, services, policies, and a culture that are designed to support them with a great experience from initial discovery to point of action and beyond. An e-filing system should follow the same strategy towards a deployment success.

43. Inclusion is about diversity and ensuring involvement of everyone to the greatest extent possible. Creating inclusive services involves an understanding of user-diversity and the wide range of their perspectives. Large stakeholder involvement at every stage of the e-filing system design and development should remove the barriers that create undue effort and separation.

44. Accessibility is an attribute of inclusive design. It refers to the levels of usefulness a service brings to the user, its ease of use with regards to intuitiveness, functioning and reliability, and – in general – creating a satisfying experience. Further to adhering the rights of persons with disabilities,[14] experts in user experience and design should be part of the e-filing project since system's design phase, working closely together with stakeholders, to ensure optimum results.

45. One-stop-shop principle should be implemented to provide a single platform for delivery of e-services by judiciary, including on e-filing. While offering users the convenience of having multiple needs met in one location increases their experience, it also saves judiciary investing further resources in the long-term.

46. An e-filing system should also serve the needs of its users, providing the highest level of flexibility to both facilitate the creating and reading of e-documents and limit their administrative burdens (e.g., performing inconsistency checks, validating legal references, generating indexed PDF bundles of case materials in electronic form, etc.).

Effective Communications

47. Digitalisation of judicial procedures and e-filing implementation require an effective supplementing communication strategy to engage key stakeholders in advocacy measures and keep target groups informed. Publication of a detailed and service-oriented action plan, indicating all measures' deadlines, resources, and responsible bodies, and a follow-up monitoring of its implementation on a regular basis could be adopted to enforce transparency of efforts and results.

48. Considering the size of the audience and the diversity of their needs and understanding of the processes, effective e-filing deployment requires communicating the benefits of using the applications and the possibilities for automating burdensome tasks, especially when introducing more complex systems or digitalisation processes. Further efforts to increase the take-up possibly through strengthening incentives and communication would be beneficial to reach e-filing system's full potential.

49. Communications underlining inclusiveness, cooperation, and engagement, supplemented with adequate actionable measures, is a must, towards delivering clear, open, and understandable messages.

50. Communication needs of citizens and businesses require simplified communications with respect to language, terminology, and visualisation to call for action. Developing new ways to communicate complex legal information, like summons, notifications, policies, process guides, and beyond, and developing pilots around how to make the e-filing more accessible, equitable, and empowering — especially for people not assisted by lawyers — should be encouraged within the framework of the regional socio-cultural framework and practices.

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[14] For strategies, standards, and resources to make web applications accessible to people with disabilities, the W3C Web Accessibility Initiative (WAI), https://www.w3.org/wai/, is a primary reference.

Multi-level Support and Training

51. Reaching an adequate level of users' digital skills is considered the biggest and most challenging aspect of a digitalisation strategy. This issue should be considered as a starting point for the e-filing design and reflected in dedicated measures applicable to e-filing.

52. An e-filing system should be built (or a new feature be introduced) in such a way that no assistance to the end user is needed regarding the usage of its functionalities.

53. Special efforts towards providing day-to-day multi-level support, training, and technical assistance are mandatory. A variety of tools can be explored; however, online training, a helpdesk with extended hours, and on-demand remote technical support should be provided.

54. Digital guidance and training, together with shoulder-by-shoulder guidance provided by peers, should be encouraged to limit the need for further support. Nevertheless, such support should be provided, if needed.

Part III – Technical Aspects

Documents in Electronic Form

55. For the purposes of e-filing, all judicial documents should be processed[15] solely in electronic form (as e-documents), respecting authenticity, integrity, and confidentiality.

56. E-documents that are legal acts (e.g., pleadings, statements, orders, decisions, etc.) should be created and made available in open formats (e.g., PDF). No proprietary software should be needed to create and/or read them.

57. Measures to facilitate the reading and study processes, especially for long text files, should be considered, especially for internal or professional external users. For example, including links to legislation and/or case law could be considered a good practice. For the former, a standard such as the European Case Law Identifier (ECLI)[16] or an equivalent standard could be used, while for the latter the European Law Identifier (ELI)[17] or an equivalent standard is recommended. Such links could also be automatically created using normalization techniques.[18]

58. Qualified e-signatures (or equivalent services) should be applied to certain types of legal acts to ensure their authenticity and integrity, for example when they need to be used outside the justice domain (e.g., court decisions). In order to allow the usage of the applications from any device and without installing additional hardware (e.g., smart card readers) and/or software, remote qualified signing should be possible. A qualified electronic seal[19] could be an alternative to the qualified e-signature, since it is automatically applied by the system.[20]

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[15] For the purposes of the present guidelines, processing refers to any operation or set of operations which is performed on data or documents, whether or not by automated means, such as creating, converting, collecting, recording, organising, structuring, storing, adapting or altering, retrieving, using, disclosing by transmission, disseminating or otherwise making available, restricting, erasing, destructing, or else.

[16] https://eur-lex.europa.eu/summary/IT/jl0056

[17] https://eur-lex.europa.eu/eli-register/about.html

[18] Such techniques parse unstructured text and automatically generate legal links. See *T. Agnoloni, L. Bacci, M. van Opijnen (2017). BO-ECLI Parser Engine: the Extensible European Solution for the Automatic Extraction of Legal Links*; available at http://ceur-ws.org/Vol-2143/paper4.pdf.

[19] An electronic seal provides evidence that an e-document is issued by a legal person (in this context for example the judicial authority), ensuring certainty of the document's origin and integrity, as the e-signature does when the signatory is a physical person.

[20] In any case, this should not pre-define an authentication process that is considered adequate by the respective member State based on experience and in line with applicable legislation.

59. The e-document sent to a judicial body by an external user should contain (or be accompanied with) structured data, i.e., metadata, to allow for automated filling in or updating of case data and enabling automatic or semi-automatic processing within the case management system, thus avoiding manual data entry and possible mistakes.

60. During the e-filing process, metadata provided by external users should undergo embedded mechanisms that automatically verify the quality and completeness of the input data, to minimize validation performed by court staff, e.g., checking accuracy of personal data against an external database, intrinsic data inconsistencies, discrepancy with the text in the e-document, etc.

61. The e-filing system should provide an incontestable proof of delivery containing an electronic time stamp issued by the receiving judicial authority.

62. Multimedia and large files (i.e., wiretaps, video files, etc.) should also be considered in the design of the e-filing architecture with respect to their potential further analyses and cross-border exchange, as well as in light of the growing need to deal with evidence in electronic formats.

63. Measures to guarantee the correct handling and exchanging of e-evidence, in terms of identification, collection, acquisition, transmission and preservation, are a must.[21] E-evidence's metadata should be represented following an international standard that provides a common language to support automated normalisation, combination and validation of varied information sources, in order to facilitate analysis, exploration of investigative questions ("who", "when", "how long", "where") and to enable exchanges with other countries.

64. Special attention and regular assessment of needs should be envisaged with respect to keeping other channels open for those who are disconnected by choice or necessity or for certain types of cases/procedures. In these cases, paper documents should be accepted by the courts and prosecutor offices, which should convert them in digital form in order to preserve the completeness of the digital dossier. An advanced e-signature process[22] (or equivalent service) should be put in place for scanned documents to certify conformity to the paper-based original.

65. Internal users should have the possibility to personalize templates for documents created in the various steps of judicial proceedings (e.g., decisions, communications, minutes of hearings, etc.). A solution to share templates with other users or members of specific communities (e.g., judges dealing with family law cases, or judges from the same court/region) should also be provided; if based on a central repository, a search function is recommended.

Online Payments

66. Solutions to enable online payment of court fees ("e-payments") should be available, enabling the users to choose the preferred method among the most common ones (i.e., credit card, debt card, money transfer, etc.).

67. Online payment solutions must be designed and implemented to ensure the security of money transfer during the whole process.

68. The e-payment process should be properly integrated with the e-filing system, so that the e-payment uniquely refers to the specific task (e.g., introduction of a civil proceeding), for example generating a unique identifier of the operation.

69. The e-payment system could provide for an automatic calculation of court fees in case they are fixed or based on known parameters (e.g., type of procedure). In these cases, a ready-to-pay template with pre-

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[21] See also *Guidelines on electronic evidence in civil and administrative proceedings adopted by the Committee of Ministers of the Council of Europe on 30th January 2019*, available at https://rm.coe.int/guidelines-on-electronic-evidence-and-explanatory-memorandum/1680968ab5.

[22] An advanced electronic signature is an e-signature that meets the following requirements: it is uniquely linked to the signatory; it is capable of identifying the signatory; it is created using electronic signature creation data that the signatory can, with a high level of confidence, use under his sole control; and it is linked to the data signed therewith in such a way that any subsequent change in the data is detectable.

filled payment data should be provided. In case no automatic calculation is possible, the user should be notified via electronic means once the exact amount could be or is already established.

70. When automatic calculation of court fees is available, publicly accessible calculating features are to be provided to private citizens.

Effective Data and Document Management

71. A unique data and document repository at national level should be put in place, with the aim to avoid duplication of information between judicial authorities, especially the ones that make use of the same data and documents across the various instances (first and second instance courts, Court of Cassation, etc.), also to provide more efficient, effective, and easy to develop search and analysis capabilities. Only access permissions should change throughout the whole e-document lifecycle.

72. The repository should ensure the storage of e-documents to preserve (and being able to prove) their integrity in every step of their lifecycle.

73. The repository should provide application programming interfaces for applications, including for external ones, via secure channels, to enable the automation of burdensome judicial operations and the automated exchange of case-related data between (judicial) authorities.

74. In order to present video evidence (e.g., during hearings, upon request of a lawyer, etc.), open standards should be identified, and specific streaming solutions could be developed to ensure the best quality and viewing experience (e.g., providing notes, bookmarks, and geographic localisation) and to avoid downloading large files. Cloud solutions (on premise or external) should be taken into consideration with the proper safeguards in place.

Accessible Court Data

75. Databases should be designed so that court statistics are collected and elaborated automatically on a regular basis, avoiding – or at least minimizing – human efforts.

76. A more comprehensive business intelligence approach should be put in place, adopting state-of-the-art Big Data technologies, applied to structured and unstructured data, in order to enable data correlation (also with internal and external databases), effective searches, analytical functionalities (beyond judicial statistics)[23] and/or perform clustering analyses and predictive analytics[24], providing useful dashboards for different types of users and effective responses to central and local decision-support needs. For such purposes, scanned documents could undergo an automatic optical character recognition (OCR) process.

77. The e-filing system should provide specific procedures for correcting mistakes made by registrars, avoiding shortcuts (e.g., direct access to databases) or workarounds that could mine the consistency of data and have negative impacts on statistics and data analysis.

Publicly Available Court Decisions

78. Court decisions should be publicly available (i.e., without authentication).

79. Automatic or semi-automatic anonymization solutions could be necessary to solve privacy constraints, creating a public version of any decision.

80. Decisions and case-related documents should be uniquely identified, following an officially recognized standard, in order to provide easier citation of case law by all actors involved and reduce time spent by legal professionals and academics on researching and navigating it.

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[23] Examples may refer to tools allowing analyses of multidimensional data interactively from multiple perspectives, customizable dynamic reports and dashboards, benchmarking, etc.

[24] Predictive analytics encompasses a variety of statistical techniques from data mining, predictive modelling, and machine learning that analyse current and historical facts to make predictions about future or otherwise unknown events.

Business Continuity Requirements

81. The e-filing system should be designed and developed allowing remote access and usage from any device and without any additional software installation requirements. Thus, web-based applications should be built, that thy can be launched from a common browser.

82. The e-filing system should correctly manage temporary interruptions, e.g., resuming the status at time of interruption without data loss.

83. Proper solutions should be found for the back-office functionality of the e-filling system to allow internal users to work off-line, i.e., when the internet connection is not available, in particular for studying and drafting documents. For these purposes, the system could allow one-way or two-way synchronization under strict rules via a separate system feature; no uncontrolled download and/or upload of e-document should be allowed.

84. The e-filing system should be designed and developed to provide easy and fast access to real-time information as stored in databases and document (or case) management systems. Quick response times (measured in few seconds) should be ensured at least for the mostly used features, e.g., displaying search results, viewing detailed data, opening a document, etc. Key performance indicators should be constantly and proactively checked and measured by a monitoring system, running frequent performance and functional tests for specific scenarios.

85. Zero downtime deployment[25] should be pursued. Proven development, security, and operations approaches allowing effective automation and monitoring on software releases in a reliable manner, should be considered.

86. A business continuity plan should be put in place, aiming to obtain short periods of e-filing system unavailability together with minimum or zero loss of data in case of crashes or data corruption. The latter is the most critical parameter, since data gaps can be problematic to solve and might need a lot of human intervention (and time) to reach structured data and document consistency.

Security Safeguards

87. E-identification of natural or legal persons should be based on a strong authentication mechanism, for example – as of nowadays technologies – through a so-called "2-factor authentication", especially when accessing the e-filing system from an external network via internet (e.g., via a web portal).[26]

88. To properly manage internal users' identities and regulate user access, the e-filing system should also be integrated with an identity and access management system. The latter should be unique for the judicial domain (i.e., to be used by all applications, not only by the e-filing system) and provide both role-based and attribute-based access control models for authorization management.

89. The e-filing system should be adequately protected from cyberattacks, especially for features exposed on the internet (e.g., web portals). It should undergo periodic vulnerability tests, following international standards (e.g., OWASP for web applications[27]).

90. To ensure data confidentiality, especially for certain kinds of sensitive information (e.g., names of defendants), solutions to encrypt data and documents should be put in place with regards to both transmitting and archiving processes. That information should be also protected against direct access via an operating system (e.g., by a system administrator), storage devices and backup media as well. A crucial aspect to be considered is the correct management of the encryption/decryption key(s), which also involves a variety of organisational aspects.

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[25] Zero downtime deployment is a deployment method where an application (e.g., an e-filing system) is never down or in an unstable state during the deployment or updating process.

[26] Most common solutions are smart cards or national ID cards (containing a qualified authentication certificate), a one-time password (OTP) generated by a mobile application on the user's smartphone or an authentication through an identity provider recognized by the judicial authority (usually a state-approved one).

[27] The Open Web Application Security Project (OWASP) is an online community that produces freely available articles, methodologies, documentation, tools, and technologies in the field of web application security.

91. Proper security safeguards should be in place in cases of remote working, to guarantee confidentiality of e-documents containing sensitive data processed on the device(s) in question.

92. Data segregation solutions should be implemented to ensure that only e-filing users can access their data, according to their rights, while privilege system users (e.g., database or system administrators) cannot read or update data.

Interoperable Architecture

93. The e-filing system should be designed in such a way to be ready to interoperate with external systems, ensuring maximum compatibility on a national level to exchange data effectively and efficiently with other authorities (e.g., land and business registers, law enforcement, etc.). This should facilitate the work of the judge in timely and comprehensive e-reception of requested documents through the established digital channels. Proper state-of-the-art architectural principles and technological standards should be adopted. Considering the complexity of e-filing, an enterprise architecture[28] could be considered suitable as it contributes to a reduction in IT complexity, consolidation of data and applications, and better interoperability of the systems.

94. Interoperability streams should be designed to ensure proper security, personal data protection and confidentiality arrangements, based on the level of sensitivity, e.g., setting up encrypted channels and a public key infrastructure to ensure authenticity, integrity and privacy of data exchanged.

95. Considering the reuse of government-facilitated building blocks is a must, e.g., existing platforms or frameworks for e-signatures, e-IDs, e-payment, e-delivery, etc.
96. European Union's regulations and available tools[29] should be considered by non-EU states to secure cross-border interoperability and exchange of e-evidence[30].

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[28] An enterprise architecture refers to a conceptual blueprint that defines the structure and operation of the organizations with the intent to determine how an organization can effectively achieve its current and future objectives by proactively and holistically identifying and analysing the execution of change toward desired business vision and outcomes.

[29] I.e., e-CODEX (e-Justice Communication via Online Data Exchange), a secure decentralised IT system which interconnects different national e-justice systems to carry out cross-border procedures in civil and criminal matters. Available at https://www.e-codex.eu/.

[30] For example, the European Commission set up the e-Evidence Digital Exchange System, a secure decentralised system allowing competent EU Member State authorities to communicate swiftly and expediently with respect to electronic exchanges in the context of the European Investigation Order and the various Mutual Legal Assistance instruments in the criminal law field. It is using the e-CODEX system as the tool for secure transmission of data.

Appendix
Checklist for Developing an e-Filing System as Part of an All-round Court Digitalisation Strategy

This checklist serves policy makers, representatives of judicial management bodies, project managers, IT managers, etc. to better outline the steps towards an effective and efficient long-standing e-filing system as part of an all-round court digitalisation strategy.

While this checklist could be used as a separate instrument to support e-filing system design, it also serves as a complementary tool to help stakeholders better interpret the concepts enlisted in these Guidelines. Each question, enlisted in checklist, derives from one or more guidelines, where the guidelines' numbering (I.1, I.2, …) indicates the respective part (I, II or III) and item (1, 2, 3...) within these Guidelines the question's context could be associated with.

The checklist's assessment approach is based on prioritization techniques used in management, business analysis, project management, and software development to reach a common understanding with stakeholders on the importance they place on the delivery of each requirement. Classification is as follows:
- Requirements as 'must have' are critical to the delivery in order for it to be a success.
- Requirements labelled as 'should have' are important but not necessary for delivery. While 'should have' requirements can be as important as 'must have', they are often not as time-critical or there may be another way to satisfy the requirement so that it can be held back until a future delivery.
- Requirements labelled as 'could have' are desirable but not necessary and could improve the user experience or satisfaction for a little cost. These are typically included if time and resources permit.

The checklist can be adapted – in particular with regards to the "compliance" column – depending on the state's status quo in e-filing and/or the respective stage of implementation and/or digitalisation.
The checklist maps the measures required for successful e-filing and court digitalisation considering the expertise needed. This provides experts with a quick overview of what type of resources could be needed for the implementation of the measure in question.

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Part I – Governance and Strategic Matters							
Is there an overarching strategy on judicial transformation and/or e-justice and/or digitalisation of judicial procedures that includes considerations on e-filing?	should have	☐	-	Yes	-	I.2	I.1 I.3 I.11-13 I.21
If such exist, is it developed in compliance with existing national and/or Europe-wide digitalisation strategies?	must have	☐	-	Yes	-	I.5	I.1-3 I.7
Do policy guidelines and commitments on judicial transformation and/or e-justice and/or digitalisation of judicial procedures encompass strategic, organisational, and technical measures, including on e-filing?	should have	☐	Yes	Yes	-	I.3	I.1-2 I.11-13
Is your e-filing system envisioned as part of a larger ecosystem of (electronic) judicial services?	must have	☐	-	Yes	Yes	I.1	I.2-3 I.11-13 I.26 II.19
Is there a clear roadmap indicating details on the necessary changes and expected impacts with regards to e-filing development and implementation?	should have	☐	-	Yes	-	I.12	I.1-3 I.11 I.13 I.17
Should a roadmap exit, does it consider relevant supporting measures and facilities (existing network, hardware, software, development, maintenance, assistance, etc.) available? If the latter are not deemed sufficient for the e-filing purposes, are there any preliminary measures to back up the process of e-filing system development and deployment?	should have	☐	-	Yes	-	I.24	I.3 I.12 II.1
Should a roadmap exit, does it consider stakeholders' digital culture and digital skills' levels? If the latter are not deemed sufficient for the e-filing purposes, are there any preliminary measures to back up the process of e-filing system development and deployment?	should have	☐	-	Yes	-	I.24	I.12 I.22
Is there a dedicated national legislation on digitalisation of judicial procedures and/or e-filing matters, integrating the concepts of formalization, simplification and/or dematerialisation of judicial procedures?	must have	☐	Yes	-	-	I.6	I.2 I.4
Is there a dedicated national legislation on digitalisation of judicial procedures and/or e-filing matters, enforcing uniformity?	must have	☐	Yes	-	-	I.6	-
If there is a dedicated national legislation on digitalisation of judicial procedures and/or e-filing matters, is it aligned with existing procedural acts and legislation in the e-government domain?	must have	☐	Yes	-	-	I.7	I.5

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
If there is a dedicated national legislation on digitalisation of judicial procedures and/or e-filing matters, is there a procedure in place on regular legislation reviews and assessment with regards to existing needs and/or technological advancements?	should have	☐	Yes	-	-	I.7	I.14
In case of obligatory measures introduced by the legislation, does the legislation envisage any transition period or a series of successive measures to be undertaken towards introducing the obligation in practice?	should have	☐	Yes	Yes	Yes	I.23	I.6-8
In case of obligatory measures introduced by the legislation, are they are in dependence of levels of readiness with regards to deployment? Are there measures in place to mitigate risks related to lack of readiness at the time of deployment?	should have	☐	Yes	Yes	Yes	I.23	I.6-8
If there is a dedicated national legislation on digitalisation of judicial procedures and/or e-filing matters, does it consider the various exceptions and specific use cases the selected technology and/or judicial transformation model implies?	should have	☐	Yes	-	-	I.8	-
Is there an experimental regulatory practice and/or a set of measures in place to 'test' the implementation of new uses of technology within the judicial domain?	could have	☐	Yes	Yes	Yes	I.9 I.10	-
Are there proper key performance indicators to monitor the efficiency and efficacy of the undertaken strategic, organisational, and technical measures?	should have	☐	-	Yes	-	I.14	II.5
Is there a change management practice and/or a set of measures in place to monitor stakeholders' needs?	should have	☐	-	Yes	-	I.15	I.16-20
Is there a mechanism to allow stakeholders to submit feedback on the strategy/roadmap in place (should such exists)?	should have	☐	-	Yes	-	I.16	I.15 I.18-21
Does your e-filing system embed user-centricity?	must have	☐	-	Yes	Yes	I.18	I.19-21
Is there a mechanism to allow external users to actively participate in the defining e-filing requirements and/or providing feedback through the e-filing development stages?	should have	☐	-	Yes	Yes	I.18	I.19-21
Is there a mechanism to allow internal users to actively participate in the defining e-filing requirements and/or providing feedback through the e-filing development stages?	should have	☐	-	Yes	Yes	I.18	I.19-21
Does your e-filing system embed 'digital-by-default' principle?	should have	☐	Yes	Yes	Yes	I.22	I.1
Is the stakeholder readiness (existing culture, level of adoption of digital tools, digital skills) taken into consideration in the way strategy/roadmap foresee the implementation (fully or partly) of the 'digital-by-default' principle?	should have	☐	-	Yes	-	I.22	II.25-26

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Is delivering judicial services digitally a preferred option?	should have	☐	Yes	Yes	Yes	I.25	I.22
If delivering judicial services digitally is a preferred option, do you envisage to keep other channels open for those who are disconnected by choice or necessity?	must have	☐	Yes	Yes	Yes	I.25	I.22 III.10
Is maintaining solely digitally born documents a priority?	should have	☐	Yes	Yes	Yes	I.25	I.22
If maintaining solely digitally born documents is a priority, are the necessary infrastructure and skills in place?	must have	☐	Yes	Yes	Yes	I.25	I.22
Is automated exchange of data with external systems ensured?	should have	☐	Yes	Yes	Yes	I.26	I.22
If automated exchange of data with external systems is not ensured, are temporarily solutions in place to ensure the implementation of the once-only principle?	must have	☐	Yes	Yes	Yes	I.26	I.22
Part II – Organisational Aspects							
Is your e-filing system development and deployment backed up by adequate resources (considering the entire lifespan of the system)?	must have	☐	-	Yes	Yes	II.1	I.11-13
Is funding secured?	must have	☐	-	Yes	-	II.2	I.11 II.1
Do you plan to engage internal resources for the development and maintenance of the e-filing system?	should have	☐	-	Yes	Yes	II.3	II.1-2
In case public procurement is considered, is the development of a proof of concept, a prototype, or a minimum viable product envisioned?	should have	☐	-	Yes	Yes	II.3	II.1-2 II.10
Is the timeframe for the e-filing system development considered against possible delays in resources' allocation or needs for alignment with related projects or measures?	must have	☐	-	Yes	-	II.3	II.1-2
Is the proper and long-term involvement of both judicial experts and legal practitioners (having knowledge on the exact procedural rules and needs from within) in the IT development measures secured?	must have	☐	-	Yes	-	II.4	II.1
Are judicial experts and/or legal practitioners engaged in any (co-) management activities?	should have	☐	-	Yes	-	II.9	II.1-2 II.4
In case judicial experts and/or legal practitioners are engaged in any (co-) management activities, are they available to allocate considerable amount of time and to acquire the proper management skills?	should have	☐	-	Yes	-	II.9	II.1-2 II.4

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Is the involvement of experts in organisational transformation, change management, communication, etc. secured, to support the design planning, using proper collaboration tools and building trust by communicating the changes in the most relevant to the audience manner?	should have	☐	-	Yes	-	II.4	II.1-2
Are relevant key performance indicators to monitor and assess the project implementation and resource allocation adopted?	must have	☐	-	Yes	-	II.5	I.14 II.1-2
Are key performance indicators to monitor and assess return of investment, cost management and savings-of-human-resources adopted?	should have	☐	-	Yes	-	II.5	I.14 II.1-2
Is a step-by-step implementation (or projects related to the implementation) of the e-filing system planned?	should have	☐	-	Yes	-	II.6	I.11-13 I.22-26
In case of a step-by-step implementation, are (sub-)measures prioritized on impact-based considerations?	should have	☐	-	Yes	-	II.6	I.11-13 I.22-26 II.1
With regards to project management, are (sub-)measures prioritized based on expected-impact, value-for-money, and risk-management considerations?	should have	☐	-	Yes	-	II.7	I.11-13 I.22-26 II.1 II.6
Is (any form of) agile methodology considered for project management purposes?	should have	☐	-	Yes	-	II.8	-
Is (any form of) agile methodology considered for technical development purposes?	should have	☐	-	Yes	-	II.8	-
Are there proper project management procedures adopted?	must have	☐	-	Yes	-	II.8	-
Are there any experimental sampling mechanisms planned to take place?	could have	☐	-	Yes	Yes	II.10	II.3
Are there any measures on organisational transformation of the judicial bodies' back offices in place?	should have	☐	-	Yes	Yes	II.11	II.6-7
Is there a proper process reengineering (business transformation) methodology in place?	should have	☐	-	Yes	Yes	II.12	I.18-19 II.6
Are automated operations and minimizing workload efforts embedded in the e-filing system design?	must have	☐	-	Yes	Yes	II.13	II.12
Does your e-filing system design adopt mobile-first approach?	should have	☐	-	Yes	Yes	II.14	II.12-13 II.15

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Does your e-filing system design embed the transparency principle?	must have	☐	Yes	Yes	Yes	I.4 II.16	I.12 II.17-19 II.21
Does your e-filing system design embed the accountability principle?	must have	☐	Yes	Yes	Yes	I.4 II.16	II.17-19 II.21
Does your e- filing system design embed the principle of inclusiveness?	must have	☐	Yes	Yes	Yes	I.4 II.17	II.16 II.18-19
Does your e-filing system design embed the principle of accessibility?	must have	☐	Yes	Yes	Yes	I.4 II.18	II.16-17 II.19
Does your e-filing system design integrate elements of administrative simplification, service improvement and user-centricity?	should have	☐	-	Yes	Yes	I.4 II.16	II.17-19
Does your e-filing system design implement the one-stop-shop principle?	should have	☐	-	Yes	Yes	II.19	I.4 II.16-18
Does your e-filing system design envisage specific measures for limiting the administrative burden on internal users?	should have	☐	-	Yes	Yes	II.20	II.16-18
Is there communication strategy in place to support the e-filing implementation?	should have	☐	-	Yes	-	II.21 II.22	I.20
In case of an existing communication strategy, does it envisage the measures on transparency of efforts and results?	could have	☐	-	Yes	-	II.21	I.4 II.22
In case of an existing communication strategy, does it envisage the engagement of key stakeholders in advocacy measures?	should have	☐	-	Yes	-	II.21	I.21 II.22
In case of an existing communication strategy, does it consider the application of human-centred design to deliver more clear, open, and understandable messages?	must have	☐	-	Yes	-	II.23 II.24	II.21-22
Are there any measures to enhance the users' digital skills planned?	must have	☐	-	Yes	-	II.25	I.22 II.11
Are there any measures for day-to-day support, training, and technical assistance in place?	must have	☐	-	Yes	-	II.26 II.27	I.22 Ii.11
Are measures related to online training, a helpdesk with extended hours and/or on-demand remote technical support envisioned?	should have	☐	-	Yes	-	II.27	II.25
Are measures related to digital guidance and/or shoulder-to-shoulder guidance by peers envisioned? (for internal users)	should have	☐	-	Yes	-	II.28	II.25 II.27
Part III – Technical Aspects							

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Are judicial documents processed solely in electronic form for the purposes of e-filing?	should have	☐	Yes	Yes	Yes	III.1	-
Are e-documents that are legal acts (e.g., pleadings, statements, orders, decisions, etc.) created and made available in open formats (e.g., PDF)?	should have	☐	-	Yes	Yes	III.2	-
Are links to legislation and case law introduced in the legal acts?	could have	☐	-	Yes	-	III.3	II.20 III.24 III.26
Is qualified e-signature (or equivalent service) applied to those legal acts that might be used outside the judicial domain (e.g., judicial decisions)?	should have	☐	Yes	Yes	Yes	III.4	III.41
Do e-documents sent to a judicial body by an external user contain (or are accompanied with) structured data, i.e., metadata?	should have	☐	Yes	Yes	Yes	III.5	III.6
Is quality and completeness of metadata checked during the e-filing process?	should have	☐	-	Yes	Yes	III.6	III.22
Does the e-filing system provide for an incontestable proof of delivery?	should have	☐	Yes	Yes	Yes	III.7	-
Is the e-filing of multimedia and large files (i.e., wiretaps, video files, etc.) allowed?	should have	☐	Yes	Yes	Yes	III.8	III.9 III.20 III.42
Are there any measures to guarantee the correct handling and exchanging of e-evidence, in terms of identification, collection, acquisition, transmission and preservation?	must have	☐	Yes	Yes	Yes	III.9	-
Are there other filing channels open for those who are disconnected by choice or necessity or for certain types of cases/procedures?	should have	☐	Yes	Yes	Yes	III.10	I.25 III.1
Do internal users have the possibility to personalize templates for documents created in the various steps of judicial proceedings (e.g., decisions, communications, minutes of hearings, etc.)?	should have	☐	-	Yes	Yes	III.11	II.13
Are solutions to enable online payment of court fees ("e-payments") available?	should have	☐	Yes	Yes	Yes	III.12	-
If an e-payment solution is in place, is it designed and implemented to ensure the security of money transfer during the whole process?	must have	☐	Yes	Yes	Yes	III.13	-
If an e-payment solution is in place, is the e-payment process properly integrated with the e-filing system?	should have	☐	Yes	Yes	Yes	III.14	-

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
If an e-payment solution is in place, does it provide for an automatic calculation of the court fees to be paid in case they are fixed or based on known parameters?	could have	☐	-	Yes	Yes	III.15	-
If an automatic calculation of court fees is available, are there publicly accessible calculating features provided to private citizens?	could have	☐	-	Yes	Yes	III.16	-
Is there a unique data and document repository at national level?	should have	☐	-	-	Yes	III.17	-
Does the document repository ensure the storage of e-documents in order to preserve (and being able to prove) their integrity in every step of their lifecycle?	should have	☐	-	-	Yes	III.18	-
Does the document repository provide application programming interfaces for applications, also for external ones, via secure channels?	should have	☐	-	-	Yes	III.19	III.39
Regarding the presentation of video evidence, are open standards identified and specific streaming solutions developed/deployed?	could have	☐	Yes	Yes	Yes	III.20	III.9 III.42
Are court statistics collected and elaborated automatically on a regular basis?	should have	☐	-	-	Yes	III.21	-
Is a business intelligence approach followed and applied to structured and unstructured data?	should have	☐	-	Yes	Yes	III.22	-
Does the e-filing system provide specific procedures for correcting mistakes made by registrars, avoiding shortcuts (e.g., direct access to databases) or workarounds?	should have	☐	-	Yes	Yes	III.23	-
Are court decisions publicly available?	should have	☐	Yes	Yes	Yes	III.24	III.21
Are there automatic or semi-automatic anonymization solutions to solve privacy constraints?	could have	☐	Yes	Yes	Yes	III.25	-
Are decisions and case-related documents uniquely identified?	should have	☐	Yes	Yes	Yes	III.26	II.20 III.3 III.23
Does the e-filing system allow remote access from any device and without any additional software installation requirements?	should have	☐	-	Yes	Yes	III.27	-
Does the e-filing system manage temporary interruptions?	should have	☐	-	-	Yes	III.28	-
Are there proper solutions for the back-office functionality of the e-filling system to allow internal users to work off-line, i.e., when the internet connection is not available, in particular for studying and drafting documents?	should have	☐	-	Yes	Yes	III.29	-

Measure	Assessment		Mapping of required hands-on measures			Reference to a key guideline	Related guideline(s)
	Level of significance	Compliance	Legislative measure	Governance-related or organisational measure	IT measure or system requirement		
Does the e-filing system provide easy and fast access to real-time information, with quick response times?	should have	☐	-	-	Yes	III.30	-
Are there paradigms in place to zero or at least minimize the downtime of the e-filing system when updated?	should have	☐	-	-	Yes	III.31	-
Is there a business continuity plan in place?	should have	☐	-	Yes	Yes	III.32	-
Is e-identification based on at least two different authentication factors, especially when accessing from an external network via internet?	should have	☐	Yes	Yes	Yes	III.33	-
Is the e-filing system integrated with an identity and access management system?	should have	☐	-	Yes	Yes	III.34	III.33
Are the features of the e-filing system exposed on the internet adequately protected from cyberattacks?	must have	☐	-	Yes	Yes	III.35	-
Are periodic vulnerability tests performed, following international standards?	should have	☐	-	Yes	Yes	III.35	-
Are there solutions to encrypt data and documents for certain kinds of sensitive information in place?	should have	☐	-	-	Yes	III.36	-
Are there proper security safeguards in place in cases of remote working to guarantee confidentiality of e-documents containing sensitive data processed on the device(s) in question?	should have	☐	-	-	Yes	III.37	III.29
Are there data segregation solutions to ensure that only application users can access their data in place?	should have	☐	-	-	Yes	III.38	-
Is the e-filing system ready to interoperate with external systems, ensuring maximum compatibility on a national level?	should have	☐	-	-	Yes	III.39	-
Do interoperability streams ensure proper security, personal data protection and confidentiality?	should have	☐	-	-	Yes	III.40	-
Is the reuse of government-facilitated building blocks considered?	must have	☐	-	-	Yes	III.41	-
[for non-EU states] Are EU interoperability regulations and available tools taken into account in light of (possible) cross-border exchanges?	should have	☐	-	-	Yes	III.42	-