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Ontanu, Elena Alina

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Adapting Justice to Technology and Technology to Justice. A Coevolution Process to e-Justice in Cross-border Litigation

Elena Alina Ontanu
Erasmus University Rotterdam
The Netherlands

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Abstract[1]

During the last decades, the EU has actively encouraged and pursued the digitalisation of European procedures at various levels (e.g. use of technology in court proceedings, dedicated online portals, digital handling of European procedures). In building an EU e-justice system to facilitate and support cross-border litigation, law and technology need to be properly assembled in a common system interconnecting national and European systems. This paper explores the complexity digitisation of cross-border procedures involves and the coevolution of the components on which such an e-justice system rely. In this process, the European uniform procedures – the European Order for Payment and the European Small Claims Procedure – have been used to test the possibilities of full digital handling of procedures as they can support the use of electronic communication means at various stages of the proceedings. Developing an EU e-justice system is not without problems as digitisation is a complex process that can facilitate as well as limit access to justice. The interaction between the requirements of law and technology has a major effect for the complexity the system needs to handle. The e-Justice Portal and the e-CODEX tests also reveal the difficulty of interaction between multiple legal and institutional frameworks as well as different national e-justice architectures. In this process of building an EU e-justice system, complexity and evolvability of law and technology have to be considered in order to allow the adaptation of the system over technical developments and legislative amendments. This analysis seeks to address the importance of these aspects in the architecture of a sustainable and reliable cross border e-justice system.

Keywords: e-Justice, European uniform procedures, cross-border litigation, evolvability, complexity

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[1] This paper is based on a contribution presented at the Current Challenges for EU Cross-Border Litigation in a Changing Procedural Environment Colloquium at the Max Planck for Procedural Law Institute, 26 September 2018, Luxembourg.

Corresponding Author: Elena Alina Ontanu, Assistant Professor in Private International Law
Affiliation: Erasmus University Rotterdam, Erasmus School of Law
Address: P.O. Box 1738, Sanders building, L7.09
3000 DR Rotterdam
The Netherlands
e-mail: ontanu@law.eur.nl

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1. Introduction

The quest for introducing more technology support in handling various stages of European procedural instruments has gradually materialised. e-Justice actions have been high on the agenda of the European policymaker (Digital Agenda for Europe).[2] During the last decades, the EU has actively encourage and pursued the digitalisation of European procedures at various levels: from forwarding the use of ICT in court proceedings, to dedicated online portals (e.g. Judicial Atlas, e-Justice Portal), and the digital handling of the European uniform procedures.[3]

Developments have focused on various aspects of cross-border litigation: namely, providing information on the use of various European instruments via dedicated websites, electronic access to standard forms for European procedures, automatic translation of standard forms text, and adopting procedural rules that support ICT use at various stages of the process. Most of these achievements have been integrated into the e-Justice Portal as the portal is envisaged to become a single entrance point for all EU law users seeking easy access to justice procedures and defending their claims in a cross-border setting (Velicogna, Borsari, Carnevalli 2018). The ultimate development to achieve will be a full electronic handling of cross-border claims, a process that has been the object of several tests involving the European uniform procedures via the e-CODEX infrastructure (i.e. the European Order for Payment and the European Small Claims Procedure).[4] However, in achieving this full digital handling of cross-border procedure, the EU action is not sufficient. The national justice systems and e-justice infrastructures play a key role in the EU plan to develop and deploy a European e-Justice ICT layer that looks to interconnect national courts and professionals across the EU. Achieving cross-border interoperability is a complex and challenging process that requires legal, technical, and organisational developments (see for example Velicogna and Steigenga 2016, Contini and Lanzara 2014)

Furthermore, the complexity and implication of large scale ICT developments are difficult to foresee upfront. There are no other European e-Justice platforms that can serve as a guidance in taking the present challenge of building an ICT architecture for digitally handling European cross-border procedures. Technological interoperability by itself is not enough to support cross-border judicial communication. Law and technology are two distinctive regulative regimes (Contini and Cordella 2016) that have to be properly assembled in a common system across jurisdictions to achieve effective interconnection and allow legally valid communication (Velicogna 2019, Contini 2014). Current national and European legislations are not effective in providing a sufficiently reliable framework that can properly address the complexity citizens and courts face (for example, for European uniform procedures see Onţanu 2017).

[2] https://ec.europa.eu/digital-single-market/.

[3] Principally, this regarded the European Order for Payment (Regulation (EC) No 1896/2006 of the European Parliament and of the Council of 12 December 2006 creating a European order for payment procedure, in OJ L 399/1, 30.12.2006), the European Small Claims Procedure (Regulation (EC) No 861/2007 of the European Parliament and of the Council of 11 July 2007 establishing a European Small Claims Procedure, in OJ L 199/1, 31.7.2007), and the European Account Preservation Order (Regulation (EU) No 655/2014 of the European Parliament and of the Council of 15 May 2014 establishing a European Account Preservation Order procedure to facilitate cross-border debt recovery in civil and commercial matters, in OJ L 189/59, 27.6.2014).

[4] www.e-codex.eu/.

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This paper uses the framework of the European Uniform Procedures, especially the European Order for Payment (EOP), the European Small Claims Procedure (ESCP)[5] to explore the complexity digitalisation of cross-border judicial procedures involves and the coevolution the components of such systems need across levels and time. Technology and procedural law components are entangled and have to be considered in relation to each other.[6] Furthermore, to properly function they need to adapt to each other's rules and requirements as these also evolve over time (Velicogna and Steigenga 2016, Contini 2014, Lanzara 2014).

The analysis begins by looking at the characteristics of the European uniform procedures that facilitate a possible digital handling and at the potential technology can bring for cross border litigation. Then, it considers the present ICT developments that can contribute to achieving a full electronic handling of proceedings in a cross-border setting. This serves as ground for analysing the interrelations between the components of a large scale ICT system where complexity and evolvability are key features for its architecture that seeks to achieve an EU e-justice system for cross-border litigation.

2. European Uniform Procedures: A Framework Facilitating Digital Handling

Access to effective justice is crucial for citizens and businesses. From a user's perspective, access to justice system is frequently weakened by a number of aspects such as formalistic and expensive legal procedures, long procedural delays, prohibitive costs of using court systems, lack of adequate legal information, unclear prevailing practices, limited knowledge of one's own rights, and a weak enforcement system.[7]

The European uniform procedures were adopted with the objective of making justice more accessible to citizens and business in cross-border litigation. The European Order for Payment (EOP) and the European Small Claims Procedure (ESCP), and the European Account Preservation Order (EAPO) aim to offer parties alternative procedures that simplify, speed up, and reduce the costs of litigation, as well as securing the free circulation of judicial decisions issued according to these instruments (abolition of exequatur).[8] These procedures are an alternative to national procedures that parties can choose to use in civil and commercial cross-border claims (see also Oro Martinez 2016, Berthe 2014).[9] They have been designed as paper-based procedures for the recovery of uncontested monetary claims (the EOP), small value claims of up to 5,000 euro (the ESCP), or contributing to the preservation of assets until enforcement is carried out at execution stage (the EAPO).[10]

The EOP and the EAPO are single-sided procedures. The orders are both issued by the court on the basis of the claimant's submissions. The ESCP is an adversarial procedure in which a judgement is given based on the submissions of both parties. ICT solutions for digitally handling these procedures have to

[5] Experience with the Account Preservation Order (EAPO) is still at an early stage and ICT projects only start to incorporate this procedure into their tested cases. Therefore, information is still thin in relation to this instrument and cannot be extensively relied on for the present analysis.
[6] The institutional component will not be discussed for the purpose of this paper.
[7] See United Nations Development Programme (UNDP) practice note on 'Access to Justice'.
[8] At the time of their adoption the exequatur procedure was still required under the regime of the Brussels I Regulations (then Regulation (EC) No 44/2001, present Regulation (EU) No 1215/2012).
[9] The material scope of the three Regulations largely corresponds to that of the Brussels I-bis Regulation. However, the EOP and the ESCP have a more limited scope (Art. 2 EOP. Art. 2 ESCP).
[10] An EAPO can be issued by the court also prior to a judgment on the merits, provided the claimant will start court procedures or is carrying out court procedures, or based on an enforceable title that the claimant already obtained.

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consider their different procedural approaches. This can be a source of ICT complexity and requires a variation of the technical and organizational solution to be implemented at European and national level.

Following the review of the ESCP and EOP Regulations in 2015, the two procedures were interlinked for the continuation of the proceedings in opposed EOPs. Hence, subject to prior claimant's request, an EOP for an amount up to €5,000 can he subsequently handled by the court according to the ESCP.[11] The amendment led to an adaptation of the annex of the standard claim form (Form A EOP) giving the claimant the option to choose between a continuation following the ESCP or an ordinary national procedure. The form's change was limited and does not seem to pose particular problems to employ in a paper-based proceeding. In a fully electronic procedure, small changes such as this can require significant adaptations of the ICT system at European and national level. Thus, what appears to be a minor change in a paper-based procedure requires more adaptations in an electronic environment. This can involve significant design and implementation costs for a digital cross-border system.

The EOP, the ESCP, and the EAPO aim to establish a uniform procedural framework to ensure an equal treatment for the users in cross-border cases (Storskrubb 2008) and a set of minimum standards that have to be complied with to guarantee a fair trial. They are meant to be conducted mainly in writing and rely on standard forms. The forms were carefully designed in the attempt to make them user-friendly for the parties. Guidelines are included in the forms for this purpose.[12] Standardisation of procedural steps and use of standard forms are elements that are useful approaches in a digital handling of cross-border procedures. However, the format they rely on should be further explored, considering if more flexible formats in an interactive setting would be more appropriate and easy to use compared to the present design. The fact the procedures are written and based on standard forms makes them particularly suitable for electronic handling – from the submission of the claim to the issuance of a court decision and request for enforcement. The uniform framework these European procedures propose in cross-border litigation facilitate an electronic handling, although not all exchanges in a European procedures can be handled via standard forms (e.g. no standard forms for communication requirements deriving from national procedural provisions) (Velicogna 2015).

Further, the European uniform procedure support and seek to forward the use of electronic communication means at various stages of the proceedings (e.g. communication between different judicial authorities, hearings, service of documents, and taking of evidence). In the review of the ESCP Regulation, provisions with regard to the use of communication technology, electronic payment of court fees, and the electronic service address were part of the actions thought of to address the deficiencies and problematic aspects relation to the ESCP (Onţanu 2017). This could be particularly useful when full-electronic handling via e-Justice platforms is contemplated. However, in practice, the national e-justice systems that can support such electronic transmission of proceedings require national communication tools and infrastructure that are usually not opened to parties or practitioners from other EU Member States as they require specific software, national e-IDs etc. The domestic ICT systems and infrastructures are different from each other and have not been created or evolved in relation to each other. They rely on different

[11] Art. 2(2) Regulation (EU) No 2015/2421 of the European Parliament and of the Council of 16 December 2015 amending Regulation (EC) No 861 establishing a European Small Claims Procedure and Regulation (EC) No 1896/2006 creating a European order for payment procedure, OJ L34, 24.12.2015, 1.

[12] See also, European Commission, *Practice Guide for the Application of the Regulation on the European Order for Payment*, 2011; European Commission, *Practice guide for the application of the European Small Claims Procedure under Regulation (EC) No 861/2007 of the European Parliament and of the Council of 11 July 2007 establishing a European Small Claims Procedure*, 2013.

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technical architectures and procedural rules who contribute to their diversity and country specificity. Hence, these national e-justice systems cannot be used in cross-border claims by themselves.

Another aspect of the European uniform procedures that is a source of complexity is the fact that all three procedures are applied and function in the national procedural context. The procedural rules and practices differ between EU Member States (see for example Hess 2017, Onţanu 2017, Ng 2012). Although proposing a uniform framework, the European uniform procedures continue to rely to a certain extent on national procedural rules. For example, the 2015 review of the ESCP Regulation set the electronic service of the judgement at the same level of priority with postal service, when this is 'technically available and admissible in accordance with the procedural rules of the EU Member State in which the European Small Claims Procedure is conducted' or where the 'party to be served has expressly accepted in advance that documents may be served on him by electronic means or is, in accordance with the procedural rules of the EU Member State in which that party is domiciled or habitually resident, under a legal obligation to accept that specific method of service'.[13] This is of significant importance for an EU e-justice platform because the platform should be able to effectively deal with all these legal and technical differences existing at national level as well as the parties' options related to the procedure (e.g. electronic service). The European procedures rely for their application on a number of domestic procedural rules and practices (e.g. service, costs of proceedings, payment of court fees, handling of procedures by the courts, transfer to national ordinary procedure, appellate proceedings and remedies, enforcement). In these situations, the provisions of the regulations have to be coordinated and/or supplemented by national procedural rules. Additionally, national procedural rules will apply to all matters that are not specifically dealt with by the three regulations (see also Onţanu 2017, Payan 2014 Kramer 2011, Lopez de Tejada and d'Avout, 2007).[14] This leaves room for national specificities within the framework of the European uniform procedures (Kramer 2008; on the Italian example of national specificities with regard to EOP claims see Velicogna 2015). Thus, different levels of national and European procedural complexities have to be handled together when designing the architecture of European e-justice system and implementing it as this can result in threats for the quality of justice (Hildebrandt). Such treats can have the opposite result to what the European uniform procedures and their digitalisation seek to achieve. Furthermore, this is an element of complexity when digitalising the European uniform procedures but also one requiring flexibility and a high degree of adaptability to all diverse national solutions.

The judgements and orders issued on the basis of these European procedures are automatically enforceable in other EU Member States (except Demark) without the need of a declaration of enforceability or a possibility of opposing recognition.[15] The execution of the decision is to be carried out in accordance with the national law of the EU Member State in which this is enforced, similar to a national judgement. The possibilities of refusal, stay, and limitation of enforcement are established in a limited manner by the regulations. The use of ICT means at this stage depends on their availability for making enforcement requests based on European procedure titles.

During the last decade the European uniform procedures, particularly the EOP and the ESCP, have been part of experimentations seeking to translate them into a digital format to further facilitate their use and their efficiency (Velicogna 2017). This process has been to a certain extent encouraged by the characteristics of these instruments (e.g. uniform framework, use of standard forms, written proceedings).

[13] Art. 1(8) Regulation (EU) No 2015/2421.
[14] Art. 26 EOP, Art. 19 ESCP, Art. 46 EAPO.
[15] Art. 1(1)(b) and Art. 19 EOP, Art. 1(2) and Art. 20 ESCP.

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3. Technology Potential in Forwarding Cross-Border Access to Justice

Technology and, especially, Internet and justice dedicated platforms (e.g. e-Justice Portal) can represent important means of improving access to justice by facilitating access to legal information and courts. Information is of particular importance for non-repetitive users and has to be geared in accordance with this aim of facilitating them. Access to justice requires a clear, simple access to legal provisions for parties to easily discern and choose the appropriate remedies as well as the court they have to address in a particular case (Schmidt-Assmann and Harings 1997). Thus, the technology supporting this process should comply with the same requirements: namely, clarity, simplicity and easiness to use. However, building such extensive cross-border e-Justice system is a complex process.

The ICT effect on access to justice in cross-border litigation can be double sided. It can contribute to lifting some additional barriers faced by parties in cross-border litigation such as distance from competent court, time lags of postal communication, need to be present in court at various stages (e.g. submitting a claim, conducting a hearing in the ESCP, collecting the enforceable title), and payment of court fees (Reiling 2009), and it can absorb part of the complexity, but it can also introduce new complexity and create new barriers for parties to access justice. These barrier have to do with parties' low computer literacy, no extensive access to technology, need to pay for the use of specific software or with limited or no high technology development for justice in their own country. Sometimes, barriers have also to do with the fact legislative developments resulting from the European uniform procedures have not yet or not fully materialised within the national practice and e-justice systems. Thus, expectations can be created by legislative provisions or standard forms text (e.g. payment of court fees by providing the details of the claimant's credit card for the EOP)[16] that do not correspond to the reality of practice. Additionally, ICT developments for justice are not always available for foreign citizens and/or practitioners. This can create additional barriers to the use of European procedures as well as a difference of treatment between local and cross-border users of national justice system. Further, the ICT solutions may require a learning process. Non-repetitive parties in cross-border proceedings cannot benefit from such a learning process (Steigenga and Velicogna 2017). The added costs related to the acquisition and implementation of specific software or technology can be significant (Velicogna, Errera and Derlange, 2011). In addition to this, consideration should be given to the fact the components of an e-justice system need to change and adapt over time and to one another for the system to keep working. Complex e-justice systems changes and need for coevolution can follow from a European procedure review or national legislative amendments (e.g. extending or concentrating the competence of court who can receive EOP claims, hierarchy of service methods in the ESCP) or technology updating and evolution (Velicogna and Steigenga 2016). At the same time, technology and software evolution can require an evolution of the legislative provisions in order to maintain the functionality of the system and its appropriate use as well as secure the legal effects of the proceedings.

Going further, ICT platforms such as the e-Justice Portal can become unified entrance points towards court services across the EU and support the interaction between parties and authorities. In the context of the European uniform procedures, the EU has been actively encouraging digitalisation also by launching in 2010 a large-scale project called e-CODEX – e-Justice Communication via Online Data Exchange. The project aims to 'achieve interoperability between existing national judicial [e-Justice]

[16] Such information provided by the claimant could not be used by national courts because of technology (no ICT solutions in place allowing them to proceed to the collection of court fees) and legislation barriers (no legislation permitting such direct action from courts).

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systems' for transmitting judicial documents, decisions, and information, and to help 'rationalise and simplify [cross-border] judicial procedures'.[17]

The e-Justice Portal aims to secure a 'one-stop-shop' for delivering e-justice in an environment looking to maximise the use and benefits of technology in cross-border settings. The infrastructural architecture of the e-CODEX platform should make interaction with the e-Justice portal and national e-justice systems possible at different levels. Therefore, the e-Justice Portal is not meant only to inform users (especially those not affording legal services) on European and national procedural details, provide access to electronic interactive procedural forms, and facilitating their online filling in and translation of standard text, but should (at least in theory) become the interface to the infrastructure that will allow a complete dematerialisation of cross-border judicial procedures and communication between national authorities, practitioners, and parties in forwarding access to justice.

Such ICT developments are not without problems. Digitisation can limit access to justice by augmenting information systems costs because of standardisation, implementation processes, co-evolution requirements, and exposure to break-down risks. This creates threats for the quality of justice that has to respond to different levels of complexity nationally and European wise (Hildebrandt). It is therefore imperative for justice systems to reflect not only on the advantages technology can bring, especially in cross-border litigation, but also on the limitations and rigidity digitisation can create (see also Velicogna 2011). Further, it has to consider also the barriers that potential and actual court users can confront with when justice services are delivered online through dedicated software and platforms (Cohen and Clarke 2015), as well as the complexity of the techno-legal infrastructure implementation and evolution (Veliconga and Steigenga 2016). The e-justice platforms and their software components need to be designed *ab initio* with consideration for the system's flexibility and evolvability. This should support the 'easy' adaptation to national and European legislative changes (e.g. courts competent to receive EOP procedures, methods of service, appeal services). These perspectives are key in developing electronic solutions that are able to provide prompt and efficient systems for enforcing judgments because they are vital for an accessible justice.[18] At the same time, technical evolution, opportunities, and limits should not overpower the design and evolution of cross-border legal instruments.

4. Digital Initiatives for Cross-border European Uniform Procedures

Over the last decade several concrete initiatives have been taking shape in digitalising different aspects of court procedures. Their starting point has been the technology's 'great potential to redefine court boundaries and make it more accessible and comprehensible for the public' (Velicogna and Ng 2006). Technical innovations towards digital justice have been evolving in a piecemeal fashion and cover a wide range of aspects such as providing access to EU and national legislation and case law, forwarding cross-border cooperation between professional in different EU Member States, use of digital tools (e.g. videoconferencing, Find a Lawyer, Find a Bailiff, Court Database), and digital processing of European uniform procedures (e.g. e-CODEX tests) (Steigenga and Velicogna 2017).[19] Although focusing on different contributions ICT can have in cross-border litigation, all initiatives have the potential to facilitate and support

[17] Competitiveness and Innovation Framework Programme. ICT Policy Support Programme, CIP ICT PSP Work Programme of 2010, (available at http://ec.europa.eu/information_society/activities/ict_psp/documents/ict_psp_wp2010_final.pdf), p. 30.
[18] European Commission Communication to the Council and European Parliament *Towards greater efficiency in obtaining and enforcing judgments in the European Union*, COM (97) 609 final, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:1997:0609:FIN:EN:PDF, point 42.
[19] Steigenga and Velicogna categorise these developments into e-Law and e-Justice.

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the application of European uniform procedures as means that can forward access to justice. However, the architectural solutions and implementation of these digital tools is not without difficulties.

4.1 e-Justice Portal

The Portal was launched in 2010 with an aim of providing 'a single, multilingual, user-friendly access point ("one-stop shop") to the whole European e-Justice system, i.e. to European and national information websites and/or services'.[20] This can support European citizens' and businesses' access to justice by making information in relation to their rights, national and European provisions, registers, and legal professionals easily accessible through a single entrance point.[21] In the process the content of previous established portals and atlases (i.e. Judicial Atlas, European Judicial Network in Civil and Commercial Matters) was gradually transferred and integrated in the e-Justice Portal. The content transferred concerned information with regard to European procedures and instruments as well as relevant national procedural rules in the area of civil justice. The outdated or insufficiently accurate information went through an updating process to align the data with subsequent amendments of domestic rules. To complete the process translations in all official language of the EU were necessary in order to comply with the multilingual framework requirements. This process took a significant time to complete. Although the gradual process should have guaranteed a smooth transition, the interplay between technology, national legislation and practices, and language requirements, made a significant amount of information not easily available for an important period of time (Onţanu 2017, Ng 2014, Ng 2012). This unexpected complexity of the process impaired interested parties' access to relevant legal information related to the European Order for Payment and the European Small Claims Procedures, and implicitly their access to redress via these alternative procedures. Thus, although technology components were in place and fully functional, the legal and organisational part of the platform were not able to deliver with the same velocity.

At present, the portal's main function is to provide access to information related to national and European procedural rules, case law, standard forms, guidelines, finding professionals in EU Member States, terminology glossaries, and access to some national and European registers.[22] The information is made available in all EU official languages as 'a means to quickly provide citizens legal information and advice' (Velicogna 2018). With regard to the European uniform procedures, the portal offers interested parties access not only to procedural rules, and general requirements and information relevant for the application of these instruments, but also additional digital services such as dynamic standard forms that can be downloaded or filled in online. Together with this, different wizards have been integrated in order to support the claimant's choice among the available European procedures. The wizards rely on specific characteristics of the party's claim to indicate potential better suited procedures as well as determining the competent national authorities for various stages of the procedures (e.g. jurisdiction, enforcement). However, they are not immediately visible for interested parties or the information obtained requires some subsequent steps (e.g. determining the competent court when several courts have jurisdiction for a certain territorial area). Further, the online dynamic forms support an automatic translation of the form's standard text from one of the EU official languages to the other. This diminishes the need of translation services and limits it to the details provided in the open-text sections.

[20] Draft Strategy on European e-Justice 2014-2018 (2013/C 376/06), Recital 11 and 32.
[21] Draft Strategy on European e-Justice 2014-2018 (2013/C 376/06), Recital 33.
[22] Multiannual European e-Justice Action Plan 2014-2018 (2014/C, 182/02), Recitals 15-16.

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The e-Justice Portal has so far been an initiative that relies on technology as a means to facilitate access to relevant information and support the procedural steps parties need to be aware of and follow in order to lodge their cross-border claims and defend their rights. Although a welcomed initiative, the portal lacks at times sufficiently detailed information that can support unrepresented parties through all procedural stages in order to vindicate and enforce their rights across the EU Member States. This has the potential to change in the future as the portal is part of a development process that seeks to expand its functionalities from being a provider of information to being a provider of services in the judicial area (e.g. supporting the interconnection of national registries regarding insolvency, Find a Lawyer, and Find a Notary, access to the European Court Databases for cases who were attributed a European Case Law Identifier - ECLI).[23] Therefore, its functionalities are part of a continuous process of adaptation and development towards achieving a full electronic entrance gate for electronic cross-border procedures within the EU.

4.2 e-CODEX

The e-CODEX was launched in 2010 as a large-scale project under the Multiannual European e-Justice Action Plan 2009-2013.[24] The project aims to 'improve the cross-border exchange of information in legal proceedings – where citizens, businesses and governments are involved – in a safe, accessible and sustainable way' (Velicogna 2014a) and to achieve 'the dematerialisation of cross-border judicial proceedings' (Velicogna and Lupo 2017). The e-CODEX platform supports the interconnection of national courts electronic systems to send and/or receive cross-border claims through legal forms filed according to the European uniform procedures – European Order for Payment, European Small Claims Procedures, and European Account Preservation Order[25] – and other information in a secure manner.

The e-CODEX project can be divided into two stages. The first part of the project was dedicated to the establishment of a 'technological platform intended to support data and document communication through the creation of an interoperability layer' (Velicogna 2014a); thus, setting a layer that allows the cross-border exchange of judicial data and access to cross-border e-Justice services (Velicogna and Lupo 2017). In developing the e-CODEX architecture, the existing legal, technological and organisational base at national level – existing domestic systems – and European components such as the European uniform procedures and the e-Justice Portal have been explored and used (Velicogna and Lupo 2019, Velicogna 2014). Once the technological solutions that secure the interoperability 'for the cross-border exchange of judicial data' and 'access to cross-border e-Justice services' were built, the legal solutions were developed to address the identified legislative gaps. The techno-legal system so developed was then tested through live experimentation of the implementations. The second stage of the project focuses on the 'long-term sustainability of the solutions' and on 'the implications of the lessons learned' to further develop the EU justice domain (Velicogna and Lupo 2017).

When it ended in May 2016, the e-CODEX project involved 25 partners among which 20 EU Member States together with other institutions such as the Council of Bars and Law Societies of Europe (CCBE), the Council of the Notaries of the European Union (CNUE), and the National Research Council of Italy (IRSIG-CNR and ITTIG-CNR) (Velicogna and Lupo 2017). The project was extended several times from the initial

[23] European Commission, *Implementing Decision on the Adoption of the Work Programme for 2018 and on the Financing of Connecting Europe Facility (CEF) - Telecommunications Sector*, Annex, Brussels, C(2018) 568 final, p. 74.
[24] Council of the European Union, Permanent Representatives Committee, Working Party on e-Law (e-Justice), 14208/15, Brussels, 20 November 2015, p. 2 (available at http://data.consilium.europa.eu/doc/document/ST-14208-2015-INIT/en/pdf).
[25] The EAPO is deemed to be tested with courts as part of the Me-CODEX project (Maintenance of e-CODEX), but the initiative has been delayed and priority was given to the Service of Documents Regulation (Regulation (EC) no. 1393/2007).

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36 months to the final 66, and has been carried on through various initiatives that build on the e-CODEX platform to provide several digital developments for the handling of cross-border procedures: namely, e-Sens,[26] FAL 2,[27] Pro-CODEX,[28] API for Justice,[29] and Me-CODEX[30].

The e-CODEX is not limited to the 'creation of a technical system' (including an organisational and semantic dimension) that allows for 'the transmission of bits, data, information or even documents between national e-justice systems or with the European e-Justice Portal' (Velicogna 2014a). It sought to build an infrastructure that 'supports a legally valid, electronically mediated judicial communication capable of producing legal effects across different EU national jurisdictions' (Velicogna 2014a). The e-CODEX platform is set to mediate the material components of the communications (e.g. documents, receipts, confirmations, etc.) and their social and legal value, as well as the material and institutional setting of judicial proceedings in order to secure the authority and recognition of procedures and their values across different justice systems (Velicogna and Lupo 2017, Velicogna 2014a). Furthermore, the chosen e-CODEX solutions had to be 'compatible with the legal systems of the Member States' as well as 'user friendly' in order for the system to be used (Borsari 2018). Following the establishment of the technical and legal components, the handling of the first European uniform procedures – the EOP and the ESCP – was live tested between participating EU Member States. As remarked by Contini, the European uniform procedures require in their digital handling not only 'accurate and reliable information about "how to" use the procedures', a side to which the e-Justice Portal is set to significantly contribute, but also 'mechanisms to support the preparation/drafting of the performative utterance (Mohr and Contini, 2011)[31] and their transmission to the competent judicial authority' (Contini 2014). The project tests carried out between courts of different EU Member States focused first on achieving the effective transmission of the EOP and ESCP data and documents; hence, not only enabling the communication between participating courts, but supporting the 'identification and expression of will needed for the performance of judicially effective acts in cross-border judicial proceedings' (Velicongа and Lupo 2017). Therefore, the digital handling of the European uniform procedures involved the establishing of e-Identification and e-Signature systems for the e-CODEX in order to secure the identity of the parties filing the documents and of the ones receiving them and/or issuing the decisions and that the documents had a valid signature (Velicogna 2014b). An e-Delivery, semantic functions, and cross-border e-Identification and expression of will solutions were developed.

The e-CODEX platform interconnects testing national authorities and professionals involved in the handling of the European uniform procedures allowing them to communicate data in a meaningful format that 'may carry different interpretations' in different EU Member States. A gateway infrastructure was adopted in order to allow national and EU e-CODEX solutions to exist independently from each other and

[26] 'Electronic Simple European Networked Services' project aims to consolidate the building blocks developed by previous large-scale projects (e.g. e-Signature, e-Identity, e-Delivery, e-Documents).

[27] 'Find a Lawyer 2' project in the e-CODEX is set to provide the necessary mechanism to ensure that the person claiming to be a lawyer is indeed a qualified lawyer in his home jurisdiction.

[28] 'Connecting legal practitioners' national applications with e-CODEX infrastructure'. The project investigates the possibilities of creating conditions to make the e-CODEX interoperable with applications used by legal professionals at the national level.

[29] 'Application Programming Interface for Justice' aims to open up the infrastructure for cross-border legal services provided by e-CODEX and the European Judicial Portal by means of an API; thus, making it possible for third parties to build applications that use the e-CODEX services.

[30] 'Maintenance of e-CODEX' is set to ensure a swift and sustainable transition of the e-CODEX project towards a long-term sustainability of its building blocks by an agency – EU-LISA (www.eulisa.europa.eu/).

[31] The 'performative utterance' has to be understood as involving several actions such as the filing of a case, the exchange of claims and procedural documents, the publication of the decision, etc. See further on performative utterance.

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convert messages transmitted in the format that each of the connected system uses, supporting their interoperability (Veliconga and Lupo 2017). The European uniform procedures provide a level of standardisation that can be handled by such system. This is why these procedures have been part of the tests – 'live cases' – testing the created environment and connections.[32] For the time being the e-CODEX does not provide an end-user interface (Veliconga and Lupo 2017). The national e-filing systems of testing countries are the ones that function as a service provider that allows the transmission of data in the e-CODEX (Veliconga and Lupo 2017). For example, the Italian Trial Online is connected to the e-CODEX system and enables the testing at the *Tribunale di Milano* and more recently the testing lawyers of the Italian Bars of Udine, Pordenone, Milan and Florence with the Austrian e-justice system – *Electronischer Rechtsverkerh (ERV)*. This allows Austrian lawyers to file EOPs digitally at the *Tribunale di Milano* in Italy and the Italian testing lawyers to file cases at the *Bezirksgericht für Handelssachen* (Velicogna and Borsari 2018), which has sole jurisdiction in Austria for proceedings lodged according to the European Order for Payment procedure.[33]

The e-CODEX, although a functional tool in supporting full electronic handling of cross-border European procedures, remains for the moment a just a promising experiment tool. The system has not been generally deployed for the public or professional use around the EU and the number of cases seems to remain low (Velicogna 2017). In the future, it is expected it will provide the vehicle that will allow a complete dematerialised handling of cross-border judicial procedures that offers the much needed support to parties having to navigate the diversity of national procedural rules (Groustra 2018).

4.3 From e-Justice to e-CODEX for Uniform European Procedures

Following the e-CODEX experience, further improvements are being considered to link the e-CODEX platform to the e-Justice Portal and develop the later into becoming a central European Service Provider. Thus, bringing together the architecture that was developed with existing national solutions in mind – the e-CODEX – and the e-Justice Portal. Such integration has the potential of providing support to all EU law users to access justice procedures and defend their claims in a cross-border setting. Furthermore, this approach can contribute to the development of a more integrated EU solution based on digital justice, interconnecting already developed European platforms (e.g. e-CODEX, Find a Lawyer, Find a Notary) and securing access to users across the EU Member States through a single entrance point – the e-Justice Portal (Velicogna, Borsari and Carnevalli 2018). In this process of integration and opening up of the European e-justice services an important role may be played by the development of Application Programming Interfaces (APIs)-for-Justice by institutional or third party service providers. APIs-for-Justice are to be understood as technical contracts that information systems can use to 'encapsulate functionalit[ies] that can be used in an automated fashion by another system' (Velicogna 2017, Steigenga, Kolitski, Velicogna, Lupo, Moelker, Berkelaar, Van de Laan 2017). Such APIs can allow the European e-Justice system and national systems relying on technical, legal, and organisational components to 'change and evolve more or less independently' as long as all component and system levels respect the technical contracts used (Velicogna 2017, Steigenga, Kolitski, Velicogna, Lupo, Moelker, Berkelaar, Van de Laan 2017).

[32] The EOP live cases have been tested since August 2013 in seven EU Member States (Austria, Germany, Estonia, France, Greece, Mata, and Poland). The ESCP live cases have been tested since June 2015 in Austria, Czech Republic, France, Malta, and Poland.

[33] https://e-justice.europa.eu/content_order_for_payment_procedures-41-at-en.do?member=1.

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Using the e-Justice Portal as an entrance point would allow access to the e-CODEX system to professional and non-professional users regardless of the level of e-justice infrastructure of the EU Member States. This would open up the system for both professional and non-professionals to submit online claims. In this process, as discussed by Velicogna, the API-for-Justice can be an additional attempt to open up the EU cross-border justice services with the support of third parties (Velicogna 2017). This opening would mean that the European e-justice system would no longer be entirely depend only on the existence of national digital justice systems and infrastructure. Reliance on national digital developments for justice services would continue, but would be more limited. However, such switch in the development of European e-justice architecture will not necessarily lead to a reduction of complexity the system is already managing by interconnecting national digital systems. It will still have to deal with a process of continuous evolution of norms and ICT systems.

The switch to the e-Justice Portal as an entrance point also for businesses and private parties can lead to additional complexities for the system to handle. The ability to verify the identity of the parties accessing justice services via de e-Justice Portal at EU level, connecting the necessary information from different national sources and subsequently via an EU e-Justice platform, complying with GDPR requirements on data use and data privacy, validly e-signing such claims and making sure they pertain to the persons it is said to belong will need to be addressed at EU level. Hence, additional architectural solutions that are secure in terms of compliance with (EU and national) legal requirements as well as (EU and national) procedural rules, and viable and sufficiently flexible in terms of the ICT and organisational components will need to be put in place. A solution to possible investigate for this purpose would be the development of dedicated API(s) for the e-Justice Portal entrance point on the identification of users submitting claims according to the European uniform procedures or connecting various users. The APIs can absorb some of the complexity the e-Justice Portal needs to handle as such developments can 'cover legal, liability, financial, organisational and other aspects' (Velicogna 2017, Steigenga, Kolitski, Velicogna, Lupo, Moelker, Berkelaar, Van de Laan 2017).

The opening of the e-CODEX services to the general public via the e-Justice Portal will certainly consolidate the idea of establishing an 'electronic one-stop-shop' in cross-border litigation for European citizens and businesses (Veliconga and Lupo 2017).[34] The European Commission is moving in this directions by call for actions which will result in the interlinking of the e-Justice Portal with the e-CODEX platform. For this purpose the e-Justice Portal Core Service Platform is being actively developed in order to expend the action to the e-CODEX module to allow online submissions of the European Payment Orders and European Small Claims that have been previously tested in the various phases of the project.[35] Several call for proposals have been lunched for this purpose within the framework of Connecting Europe Facility (CEF) and by the DG Justice who seeks to further e-access to e-CODEX. Additionally, the European Action Grants scheme for 2018 calls for proposals looking to secure the maintenance and evolution of the system for online exchange between judicial authorities and the e-CODEX platform.[36]

5. Minding Complexity and Evolvability in Developing e-Justice Solutions for Cross-border Litigation

[34] Draft Strategy on European e-Justice 2014-2018 (2013/C 376/06), Recital 32.
[35] See European Commission, *Implementing Decision on the Adoption of the Work Programme for 2018 and on the Financing of Connecting Europe Facility (CEF) - Telecommunications Sector*, Annex, Brussels, C(2018) 568 final, p. 76.
[36] See JUST-JACC-EJU-AG-2018.

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The design of procedural infrastructures to allow a full online handling of the European procedure involves not only a technical component, but requires the amendment of European and national normative frameworks, the (re)design of organisational routines and the learning of new skills. Hence, the process is not as direct as it might appear at first.

5.1 Making the Switch

The switch from paper-based procedures to digital procedures 'is not just a change of the tools used to access information and exchange procedural data and documents' or 'just a way to make justice more efficient and effective', but it 'involves a reconfiguration of the established structure of legal legacy' (Contini 2014, Lanzara 2009). The e-CODEX project revealed that a European wide digital justice has to address these components in a multi-setting framework because the various domestic e-justice system do not find themselves at the same stage of development and deployment. Additionally, their architecture, technical components, language requirements, applicable procedural rules and requirements differ, reflecting national specificities and development history. Therefore, agency and semantic interoperability solutions need to be considered and put in place in order to address some of the sources of identified or of potential complexity.

Developments that have been taking shape so far in EU cross-border procedures have been 'built focusing mainly on the creation of ICT supported versions of the EU cross-border procedures' (Veliconga and Steigenga 2017). Available digital solutions aiming to support cross-border access to justice remain mainly at general and theoretical level. The user continues to find himself with functional solutions but seldom useful tools or partially useful tools (Veliconga and Steigenga 2017). The data the e-Justice Portal offers is still insufficient in conducting European cross-border procedures in an easy manner. Thus, for the moment the portal remains a general tool that fails to provide the necessary practical and accurate information. The ICT solutions put in place by the e-Justice Portal have only partly addressed the need for assistance parties require in cross-border proceedings. Existing wizards integrated in the Judicial Atlas pages of the portal in order to guide users in choosing the appropriate European uniform procedure for lodging a cross-border claim are not immediately visible for interested parties or the information obtained requires some subsequent steps (e.g. determining the competent court when several courts have jurisdiction for a certain territorial area). Furthermore, they are not sufficiently intuitive to guide the parties who are not able to give actual replies to the wizards' general questions. This requires further conceptual actions to be incorporated in the ICT system to in order to provide the necessary support non-repetitive users actually need in identifying the appropriate solution in cross-border litigation. At the same time, in some cases it may also be appropriate to revise the procedure in order to simplify the development of usable and useful technical solutions.

5.2 Digital EU Procedures: Needing to Interrelate Technical and Procedural Requirements

The interaction between requirements of law and technology can have major effects for complexity, increasing it and pushing the system development over the so called 'maximum manageable complexity' (Lanzara 2014). It is not a case that e-justice national experiences have been characterized quite often by failures or great difficulties (Schmidt and Zhang 2019, Velicogna 2009, Velicogna, Errera and Derlange 2013). In a cross-border setting, the interaction between multiple legal and institutional frameworks as well as different national e-justice architectures that should be able to communicate and interact with each other in a legal valid proceeding further enhance complexity.

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The interrelation of technical and legal components which bring with them their own imperative rules and requirements is one of the first complexities the creation of digital justice system have to face when switching from a paper procedure to a full digital handling. The identification and translation of technical and procedural requirements into software 'magnifies the complexity in system development' (Hanseth and Lyytinen 2010). When law prescribes in detail the use of technological components, the later can become difficult to use and develop. The e-justice system so constructed becomes slow and difficult to use and disseminate as potential users can find the system's protocols, and organisational and technological developments too onerous, rigid, and demanding to operate (Contini and Mohr 2014). They can also pose issues of evolvability when procedural rules change or new technology need to be implemented (Borches and Bonnema 2008). Rigid e-justice systems that do not have (sufficient) flexibility to adapt to new legal or technology developments requiring important amounts of resources for periodically redesigning the system and have it implemented and interconnected. Additionally, in the implementation phase, changes to e-justice systems can lead to issue of access to justice and delayed justice services.

Furthermore, at EU Member States level the systems and functionalities are usually designed to work only within their national technical and legal environment. For example, in order to secure legally effective communication, an e-delivery solution had to be put in place to allow the data and documents exchange in the case of e-CODEX live experimentations. For this purpose, an e-Identity and e-Signature components had to be developed and deployed (Veliconga and Steigenga 2017, Velicogna 2015). When the architecture of the e-CODEX was being created, there were no solution available to have national e-ID verified from one EU Member States to the other at technical or legal level. Technology and infrastructure, as well as legal rules were national specific, but procedural requirements made it necessary to be able to verify and certify the identity of various parties in cross-border judicial proceedings. The solution chosen for e-CODEX was a validation mechanism handled by the sender connecting authority (e.g. the Ministry of Justice in an EU Member State sending the procedural documents) (Veliconga and Steigenga 2017, Velicogna 2015).[37] This solution will need to adapt when claims are filed directly via the e-Justice Portal entrance point.

The interoperability between technological, institutional, and legal frameworks of the 27 EU Member States applying these European procedures has the potential of becoming unmanageably complex in consideration of the intricacy of dynamics between technology and law. The e-CODEX architecture sought and seeks to avoid such complexities and to find functional ways to build on national ICT and organisational solutions for civil justice and previous EU infrastructure. In practice, this means having a multiparty agreement that sets the legal basis for recognising such communication between national e-justice systems (Velicogna and Lupo 2017). This solution allows parties in the agreement to achieve a certain level of simplification through mutual trust and acceptance of national systems without hampering effective performativity. Furthermore, this means that common standards have to be agreed by partners in digital procedures handling to develop common solutions and maintain complexity at manageable levels. In order to enable a meaningful exchange of information between national systems in cross-border proceedings initiated according to European uniform procedures, semantic interoperability had to be developed by e-CODEX. This allowed an interpretation of specific coding schemas used by domestic semantic structures and their transformation into 'European' semantic concepts to be recognised by other national standards and semantics (Veliconga and Steigenga 2017, Velicogna 2018). In practice, this led to a significant number of ad-hoc redesigns to integrate and address national specificities that proved to be problematic during the e-CODEX EOP and ESCP test cases lodged with courts in participating EU Member

[37] *e-CODEX Achievements, Use Cases and Technical Building Blocks*, 2015.

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States (Veliconga and Steigenga 2017). Such situations maintain a constant level of complexity that needs to be managed and addressed.

5.3 National Technical and Organisational Infrastructures

In developing European e-justice systems to receive and handle cross-border judicial proceedings such as the European uniform procedures, agency cannot be ignored. This has to be 'projected from one Member State to another without human facilitator or intermediate bodies' (Contini and Mohr 2014). According to Velicogna and Steigenga, 'the cross-border and judicial dimensions together with the diversity of national software application, architectures, software technological and legal environments, and the variety of users and task involved, all contribute to complexity' (Veliconga and Steigenga 2017). In consideration of all these complexities that had to be addressed by the e-CODEX project, the partners developing the digital platform chose to base it on a system of building blocks some of which were built as part of previous EU Large Scale Projects or national projects. Opting for a decentralised interoperability architecture, the project partners managed to give the system a degree of flexibility that will also be of importance for future developments (e.g. connecting it to the e-Justice Portal), but also for the coevolution in terms of legislative amendments (e.g. the review process of the ESCP and EOP, national procedural rules), and ICT developments (e.g. national e-justice infrastructure, technology used).

An additional aspect that had to be taken into consideration and contributed to the complexity digital initiatives such as e-CODEX involve regards the organisational components. e-CODEX services provision is not just the result of technical and legal components, but involves and relies on the joint efforts of a number of organisations, roles, and people having different functions (e.g. judges, court staff, technicians, software houses) and inputs in the activities that have to be carried out to achieve the full digital handling of European uniform procedures. As legal and technical components of systems such as e-CODEX, the organisational components need to be part of the coevolution process. With regard to this component, the mutual adaptation of its elements will be faced with different levels of flexibility and speed of reaction.

5.4 Interplay between National and European Rules

The development of legal e-justice solution for cross-border proceedings requires a critical amount of information with regard to national legal systems. The level of standardisation the handling of the European uniform procedures can reach has its limitations due to its basic design logic which relies on national systems for their implementation. The limitations are rooted in the diversity of national provisions that are necessary for the application of the EU cross-border judicial procedure. As previous research carried out on the functioning of the EOP and ESCP in several EU Member States showed, the reliance of the European uniform procedures at various stages of the proceedings on national procedural rules leads to divergent application of procedures although they are intended to provide uniform solutions (Onţanu 2017, Velicogna, Lupo and Onţanu 2017). These national characteristics are not always visible upfront and the e-Justice Portal insufficiently addresses these type of domestic specificities through its dynamic information webpages dedicated to the European uniform procedures (Onţanu 2017, Ng 2014). In addition to limited specific procedural law information that is necessary for a lay person to carry out such procedures, the data provided is at time erroneous (e.g. competent courts in some EU Member States, authorities responsible for the service of documents). Not sufficiently detailed information coupled with erroneous data lead to unnecessary complexities for the end user.

Besides direct references to national procedural rules in the application of the EOP, ESCP, and EAPO procedures, domestic legislation establish specific conditions that have to be observed for the legal

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validity of specific procedural steps. These requirements can differ or be more demanding to comply with when procedural acts are carried out in a particular format (e.g. electronic) (Veliconga and Steigenga 2017). This in turn leads to entanglements that require sophisticated technological and infrastructural solutions that can deal with such multi-level requirements. However, technology developments are not able to address these complexities alone. National and European legal amendments are necessary to support ICT developments and a simpler architectural design of digital systems. Extensive reliance on national procedural rules and solutions within harmonised European instruments result in intricacies that the European uniform procedures initially sought to avoid. Digital solutions that aim to forward the electronic handling of European procedures need to address these imbrications and avoid reaching levels of maximum manageable complexity as these will hinder the circulation of agency between EU Member States.

This has to be done also with the consideration that besides finding the appropriate digital solution, the design of the e-justice system should be flexibility enough to allow it to easily adjust to the dynamics of legislative amendments at EU and national level. At the same time, legal developments should consider present and future features of the technological solution, in order to grasp their potential and do not exceed the manageable technical complexity. This is necessary in order to guarantee the sustainability of the e-justice system, the compliance of the technical solutions with legal and procedural requirements, and its usability.

In the present context, ICT interoperability solutions have to allow technically and legally valid communication between existing national specific solutions while simplifying the user interface by bridging legal and semantic differences and black-boxing unnecessary procedural details for the user. Hence, in order to provide the potential user with a simplified access to justice via ICT infrastructure, complexities need to be black-boxed by the system and sealed behind the user-friendly interface.

6. Concluding Remarks

Standardisation of procedural steps and use of standard forms are elements that are useful approaches in a digital handling of cross-border procedures. Procedural diversity in cross-border claims inevitably leads to complexities whose effects are magnified when necessary information is not easily made available. These complexities are taken over by technology solutions who need to be assembled and effectively function across different justice systems. When such diversities are well-known, technology solution can strive to address them. The e-CODEX projects have constantly sought to address these diversities in order to offer viable solutions. This approach has to be taken on and considered for further developments looking to achieve an EU full e-justice system for cross-border litigation. At the same time simplification and complexity have to be balanced. As pointed out by Lanzara, two design principles have to be observed when developing e-government services and systems that assemble law and technology such as e-CODEX: 'maximum feasible simplicity and maximum manageable complexity' (Lanzara 2014). Although the end user might avoid some of these complexities by black-boxing part of the procedural details when designing e-justice systems, the design, functioning, and organisation of such platforms remains difficult and costly to manage. Additionally, this can lead to systems that struggle in terms of flexibility and require high maintenance costs, while their development already required significant investments. The reverse is simplifying procedures to such extent that their guarantees and fairness of procedures is affected. Opening the e-CODEX infrastructure to APIs and third party service providers may go in this direction but requires a reframe-work of the current e-CODEX governance (Steigenga, Kolitski, Velicogna, Lupo, Moelker, Berkelaar and van de Laar 2017, Pagkalos, Zikos and Velicogna 2018, Velicogna 2019).

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Technology can provide the tools that can facilitate access to justice in a cross-border setting and offer additional instruments and assistance; however, this is not the only element that has to be taken into consideration or the one that can offer universal solutions. In order to provide the support access to justice requires, technology needs to be addressed together with other key elements – the legal and organisational components. All three of them are equally important in order to design user-friendly digital solutions for cross-border procedures. Developments that are less reliant on ICT should not be ignored as they create the basis or prepare the ground for what now might appear as challenging technology solutions. Diversity remains a key component of the EU construction which can be to a certain extent more easily handled though common understanding and interpretation of national legislative and institutional differences towards achieving the desired goal. This is not an ICT solution, but may provide support to complexity coming from uneven national features as well as facilitating the coevolution of components that form such ICT systems. Developments triggered by technology and aiming to achieve the electronic handling of cross-border claims are part of the present challenge. In this process, all parties involved have to be mindful of the fact that other components besides ICT have to bring their contribution to this construction otherwise the whole architecture and investment made risk to become unsustainable.

The way European procedural rules are drafted, the format of litigation to which they are intended, as well as the interplay between European and national procedural law have a significant role to play in the digitalisation of cross-border proceedings. In the e-CODEX project, the procedural rules imposed the development of specific features for the technology and digital solutions. This was necessary in order to comply with the legislative requirements of legal validity of procedural steps in the application of the EOP and the ESCP. It also led to an organisational adaptation as well as to national institutional actors assuming additional control tasks in order to guarantee the identity of the involved actors. Legal flexibility is necessary in an environment that is developing fast as existing hard black-letter law might not contain the required solutions. The evolvability feature of the e-justice systems would desirably be matched by evolvability capabilities of the law. Such evolvability capabilities are necessary in order to create the necessary flexibility for legal rules establishing European uniform procedures to coevolve with the ICT solutions and applications supporting their e-handling in cross-border litigation. Although desirable, this appears difficult to attain in the present legal format mainly relying on hard rules. The European uniform procedures and the national procedural rules relevant for their application allow a limit level of flexibility in the carrying out of proceedings (e.g. different types of service methods). Thus, in order to attain legal evolvabilities, European and national legislative texts should be designed *ab initio* with this capability in mind.

The digitalisation of the European uniform procedures finds itself at crossroads between various aspects that have an incidence on the process. On one hand, the procedural framework aims to simplify and ease the parties' tasks through uniform rules; however, this framework is not complete, as a significant number of aspects are still regulated by national procedural rules and specificities. On the other hand, this complexity and interplay between rules and national practice needs to be incorporated in a digital system that is also relying on a diversity of systems bridged under the e-CODEX platform. This increases the complexity of building and deploying a European system that electronically handles European uniform procedures. To this, an additional layer must be added – legal semantics. The e-Justice Portal dynamic standard forms and the e-CODEX platform manage to successfully encode and deal with the different language versions and concepts of the European uniform procedures; thus, being able to translate them from one legal system to the other when it comes to the concepts contained by the forms, this is not the case with national legal institutions that are relevant for their application or challenge of these procedures. The legislative technique needs to consider these aspects more carefully when adopting such procedures.

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Furthermore, the EU procedural concepts should be interpreted autonomous from their possible national equivalents and should not be assimilated to these. This kind of assimilations result in additional complexities that digital systems would need to learn to deal with in cross-border situations. An opposite approach, relying on autonomous EU procedural concepts would bring more uniformity, clarity, and some simplification in the digitisation process. Furthermore, an autonomous interpretation of EU procedural concepts would improve the capabilities of evolving the law. Systems that are less expensive to build, easy to use, and function well are likely to encourage users to choose these available tools.

In theory, a significant part of the procedural complexity digitisation seems to entail in cross-border procedure could be dealt with by designing cross-border procedures with the perspective of e-handling in mind. This approach can comes in line with what Lanzara refers to as 'maximum feasible simplicity', retaining procedural standards and guarantees, but avoiding some of the complexities that the digitisation of paper-based procedure involves, especially when different legislative levels have to be applied together. In practice, this seems more difficult to achieve for already established European procedures, but this experience should always be reflected on for new EU procedural rules or for a future reviews of already well-known instruments, as the digital component of justice is becoming a pervasive element.

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