20 November 2019

THE CONCEPT OF EXPANSION OF THE LEGAL SCOPE OF ELECTRONIC SEALS

Ministry of Digital Affairs, DLT and Blockchain Working Group

The document expresses the views of experts participating in the work of sub-team for eID – GDPR – AML, thus is not the official position of the Minister of Digital Affairs.

This document was prepared within the framework of the work of the working group for DLT and blockchain, operating within the Distributed Ledgers stream, established by the Decision no. 7 of the Chairman of the Committee of the Council of Ministers for Digital Affairs of 10 October 2018, changing the decision on the establishment of the "From Paper to Digital Poland" Task Force.

INTRODUCTION

The purpose of this document is to present an initial concept of expanding the legal scope of electronic seal in Polish law. The current legal framework for electronic seal encompasses only some of the issues that accompany the dynamic growth of digital commerce involving collective entities.

The solution discussed in this document involves accepting specific legal presumptions about the use of electronic seal, similar to the existing presumptions regarding analogue commerce. These presumptions could make a material contribution to enhancing the effectiveness and security of electronic commerce.

Expanding the legal scope of the institution of electronic seal seems the most effective solution of the problem in question, as it has already been recognised and established in the legal system, and it is based on a developed technology. It also offers a number of additional commerce-critical benefits.

The concept presented in this document is an initial proposal that serves, firstly, signalling certain real economic challenges and, secondly, showing how they can be possibly solved. The final choice of the specific course of actions will undoubtedly require further in-depth discussions and analyses.

It was not by coincidence that the concepts discussed in this document emerged during deliberations within the distributed ledgers and Blockchain working group appointed in the electronic identification subteam. Blockchain has combined several technologies utilising the best knowledge of cryptography, planning of distributed data processing systems and availability of fast data transmission networks. The Blockchain technology offers tools which can structure and automate systems that require trust, which is a significant challenge in relations between businesses and institutions. Indeed, in general terms, one may assume that Blockchain technology satisfies the need for trust, which is very inspiring as it paves the way for new methods of operation.

In the practice of economic or administrative processes, establishing whether specific individual authorisations are legally valid - although this is ensured in the digital era by the fairly well established digital signature technology - happens to be cumbersome both in legal and technical terms. It is also a different part of the process than establishing the validity of a specific provision of an agreement between the parties. Application of the Blockchain technology to electronic seal, which in itself expresses the issuing entity's declaration of will, provides for automation and verification of all procedures which have normally been acknowledged by stamping an ordinary seal. Such automation of processes and the assured trust are opening new opportunities in economic relations.

This paper comes as a result of deliberations held by the distributed ledgers and Blockchain working group which operates within the Distributed Ledgers stream established under Decision no. 7 of the Head of the Digitalisation Committee of the Council of Ministers of 10 October 2018 amending the decision on appointing the Task Force"From Paper to Digital Poland". In their deliberations, the working group relied on workshops organised within the Coalition for Polish Innovation.

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ABSTRACT

- The purpose of the solution discussed in this paper is to address the following two challenges related with the progress of digital commerce:
    - The lack of legal presumptions regarding authorisations of entities taking part in digital commerce;
    - The lack of adequate regulations regarding automated legal transactions;
- The lack of an effective response to the aforementioned challenges can lead to increased uncertainty among actors of digital commerce and inadequate efficiency of digital economic processes;
- The solution presented herein assumes expanding the legal status of the electronic seal as regulated under the eIDAS Regulation;
- At present, an electronic seal can serve only as a tool to confirm the origin and integrity of digital content. The solution presented herein assumes that the legal system will associate the use of a qualified electronic seal with a legal presumption that the content of a digital message signed with such seal is covered by a declaration of will made by the entity named in the certificate for the seal;
- The solution assumes that the presumption will have a universal application. It could apply to B2B and B2C relations as well as to relations with administration authorities. For pragmatic and prudential reasons, an option to consider is to gradually incorporate the presumption into legal system. At the first stage, the presumption can be tested to a limited extent by limiting its applicability to e.g. a specific sector of economy;
- The presumption would be effective only within the framework of Polish law, for it does not arise from the eIDAS Regulation. At the same time, the authors are of the view that the eIDAS Regulation does not include any provisions that would prohibit respective Member State legal systems to give legal effects to the use of an electronic seal.

WHAT PROBLEM DO THE AUTHORS SEEK TO SOLVE?

One can notice growing tendencies to digitalise and automate economic exchange processes in commerce. Parties increasingly often use digital systems to conclude and implement legal transactions. These systems are also increasingly often characterised by a degree of autonomy.

The continuing growth of these tendencies is a natural consequence of the development of the Internet of Things and data-based economy in which a number of business models provide for data transfers by means of e.g. automated transactions based on the Machine to Machine (M2M) model.

In order to better illustrate the essence of the phenomenon of the progressing digitalisation and automation of commerce, at the end of this paper the authors included descriptions of cases where digital and automated economic transactions may take place.

In view of the phenomena in question, it becomes essential to create appropriate tools and legal frameworks for secure and effective conclusion and implementation of digital, automated legal transactions. The existence of such tools is the condition for the Polish economy to actively participate in the latest development processes.

Legal solutions in place today do not enable full achievement of the aforementioned objectives. The gap between available legal designs and the practice of commerce is becoming evident, bringing inefficiency of many processes and a growing uncertainty among commerce participants.

In the course of the workshop that accompanied the development of this paper, the authors identified two key categories of challenges which accompany digital commerce today:

Challenge 1 – Lack of systemic presumptions regarding digital declarations of will

The current legal system allows concluding digital legal transactions, including digital declarations of will. However, tools for making such declarations are assigned to specific natural persons. At the same time, the system is not developing any presumptions regarding digital declarations of will that would correspond to presumptions regarding analogue commerce (e.g. Article 97 of the Civil Code, a presumption regarding a person on duty on business premises). As a result, when a representative of a legal person makes an electronic declaration of will, despite the digital form of the declaration (which is meant to enhance efficiency of the processes), it is still necessary to conduct time-consuming verification of the chain of authorisations of the person making the declaration of will on behalf of the legal person. This is a significant hindrance to the development of digital commerce. It also leads to certain discrimination against digital commerce, for it cannot rely on the presumptions

which apply to analogue commerce. Paradoxically, analogue commerce may therefore occur to be more effective than digital commerce.

Challenge 2 – Legal uncertainty regarding automation of commerce

Digital commerce increasingly often takes place without any participation of the human factor. This is how contracts are concluded and assets transferred, frequently representing significant value. These actions are more and more often carried out with tools which autonomously determine transaction parameters. The rules that govern making declarations of will in the current legal system are becoming inadequate for such commerce. In consequence, with the number of digital transactions constantly growing, there are doubts about their validity.

COMMENT TO CHALLENGE 1.

The essence of Challenge 1 is that there are no systemic presumptions regarding operations of collective entities in digital space. The best the addressees of electronic communication sent by collective entities can expect is the guarantee - based on electronic signatures and seals - that specific communication does come from a specific sender. However, if one wants to be sure that a message is a true declaration of will made by a specific, duly authorised representative of a given collective entity, then one needs to trace back the chain of authorisations in a traditional manner.

In the case of large organisations, recreating the complete chain of authorisations may require many time-consuming actions leading to inefficiency of many economic processes. In practice, it also leads to a number of fictions which are not based on provisions of law and involve e.g. artificial attributing electronic declarations to actions of a specific representative of a legal person, while the parties to the legal act perfectly realise that the representative in question is not aware of all actions that are taking place.

Concluding legal transactions in analogue commerce is somewhat different. The civil law system has known, for a long time, the presumption that a person on duty on business premises acts on behalf of the legal person (Article 97 of the Civil Code):

"*A person on duty on the premises of a business meant to provide services to the public shall be deemed as authorised to carry out legal transactions usually performed with persons who use services of that business.*"

This presumption has been introduced into the legal system to increase effectiveness and certainty of commerce. It enables customers of a business to safely conclude legal transactions with that business without the need to conduct time-consuming verification of authorisations of its representatives. Naturally, it also increases the risk borne by the business, as it may lead to associating the business with actions taken by people whom it has not duly authorised. However, considering social and economic reasons, the legislator decided to burden business with that risk for the sake of increasing the effectiveness and certainty on the side of the customers.

The presumption in question forces businesses to care for appropriate organisation of their internal management processes and controls. At the same time, the legislator introduced a system security in the content of Article 97 to appropriately limit the scope of risks on the side of businesses (most importantly, the presumption has been limited to legal transactions which are usually concluded with persons who use services of a given business).

Theoretically, one could contemplate whether the challenge in question is not adequately addressed today by Article 97 of the Civil Code referred to above. In the authors' opinion it is not. In the first place, the provision uses the term "premises of a business". Although the term is not defined, the predominant view has been that it refers to "brick and mortar" accessible to the public where business is run.

It is impossible to resolve conclusively to what extent the term can apply to business activities performed in digital space. Some concepts have appeared recently which call for at least partial application of the presumption of Article 97 to electronic legal transactions. For instance, the judgement of the Court of Appeal in Szczecin of 22 March 2017, case file I ACa 964/16, includes the following statement: "*There are no grounds to exclude the possibility of concluding agreements remotely by fax, or to exclude application of Article 97 of the Civil Code in such situations. The term <<premises of a business meant to provide services to the public>> used in Article 97 of the Civil Code must be understood widely as any location within a given business where there are people and devices for contacting the clients and concluding agreements, also remotely*".

Attempts to understand the term "premises of a business meant to support operations of that business" as one that refers also to digital space should be treated as attempts to adapt the existing rules to the digital system reality forced by the lack of appropriate regulations rather than attempts that meet the intentions and content of Article 97 of the Civil Code. The authors consider that building a presumption for digital declarations of will based on Article 97 of the Civil Code appears to be a solution that is flawed and even dangerous, as the provision is not adapted to this type of commerce. In extreme cases, attempts to apply it to electronic declarations of may lead to a conclusion that for that presumption to materialise it is sufficient to e.g. send an e-mail from an address which includes the business's domain. Bearing in mind how easy it is to use someone else's e-mail address, putting this solution in practice would inevitably and unacceptably increase the risk on the side of businesses.

The fundamental difficulty in applying the presumption of Article 97 of the Civil Code to digital commerce has lead to a paradoxical situation where digital commerce, which was supposed to contribute to increasing efficiency of economic processes, occurs to be less efficient than analogue commerce in certain respects. Indeed, customers of a business in certain areas of analogue commerce can safely conclude legal transactions with that business without having to painstakingly verify the authorisation of its representative to conclude a given legal transaction. This is not possible in the digital world.

Bearing this in mind, one should, in the authors' opinion, consider introducing a new presumption into the legal system that would refer directly to business operations in digital space. It will allow defining the conditions that will have to be met for such presumption to be effective. It will also reduce the risk which may emerge in connection with attempts to apply Article 97 of the Civil Code to digital commerce.

COMMENT TO CHALLENGE 2

Categories of automated legal transactions

In order to properly understand the specific nature of automated commerce, it is essential to define categories of automated legal transactions. They are indeed significantly varied. The division presented below is an abstract one. In practice, automated systems are often hybrids of the categories discussed below.

1. **Technical actions**
2. **Algorithmic declarations of will**
    a. Fully determined solutions;
    b. Partially determined solutions (the so-called gap-filling);
    c. Adaptive solutions.

Re. 1 Technical actions

At present, the practice of digital commerce often assumes that the parties conclude an agreement between them in a traditional manner. The agreement defines the framework for cooperation between the parties while providing for a set of technical actions which represent actual implementation of the agreement and are carried out in a digital and automated manner (e.g. by means of communication with the API of one of the parties to the agreement). This approach assumes that electronic communication and exchange of data between the parties represent implementation of technical actions, not submission of declarations of will. As regards situations of this kind, an electronic seal within the meaning provided in the eIDAS Regulation is sufficient and may occur to be very helpful tool, as its primary function is to enable correct identification of parties which carry out such technical actions. It does not need to play any other roles, in particular it does not need to be "a carrier" of a declaration of will. Indeed, it is assumed that such declaration was made during the traditional conclusion of the original framework agreement, and actions carried out automatically only implement the already concluded agreement.

Re. 2a Algorithmic declarations of will. Fully determined solutions

The development of tools of digital commerce brings more and more economic models where automated exchange of data is more than just a technical action. Rather than that, it starts playing the role of a declaration of will. Actions carried out by an automated tool are not preceded by any traditionally submitted declarations of will.

A legal relationship is established by an automated action of at least one party to such relationship. It is an automated system that defines ("agrees to") the parameters of the contract. In the case of fully determined solutions, automated tools have no autonomy to

determine the content of a legal relationship. It is fully determined by the author of the tool (algorithm). It is therefore known beforehand what the content of such legal relationship will be.

Re. 2b Algorithmic declarations of will. Partially determined solutions

In partially determined solutions, the authors of a tool set certain boundary parameters of a given legal relationship, but in some areas (e.g. the price for a service) they leave some decision-making freedom to the automated tool itself. The final form and content of the legal relationship are not known, but its boundary parameters are (e.g. it is known that the price will not exceed predetermined values).

Re. 2c Algorithmic declaration of will. Adaptive solutions

In the case of adaptive solutions it is acceptable that either all or some elements of a legal relationship do not have any predetermined boundary parameters and can be defined autonomously by the tool (algorithm). It is also accepted that the tool will evolve, thus modifying the rules of its operation and ultimately leading to separation of both the tool and these rules from the awareness of its authors.

The types of automated legal transactions described here do not exhaust the entire possible spectrum of such transactions. They show, however, their possible gradation, taking into account the extent to which the results produced by the tools used for carrying out these actions are linked to the awareness of the entities on behalf of which these tools operate. In the case of fully determined solutions, one can assume that these entities gain awareness of the results of operation of these tools through the sole fact of using them. A conscious decision to use a tool is, in this case, equal to the awareness of the content of the resulting legal relationship determined by that tool. This simple relation becomes distorted in the case of partially determined solutions. However, one can then assume that the process of awareness gaining involved at least the boundary parameters of a given legal transaction. As regards adaptive solutions, in extreme cases, the relation between the awareness and the products of the tool may become completely severed. The subject of the awareness may then be, at most, the fact of that such tools have been used.

THE RULES OF MAKING DECLARATIONS OF WILL AS THE MAIN LEGAL CHALLENGE

The rules of making declarations of will are the key legal issue in the challenges discussed herein. The foundations of these rules were laid in the analogue reality, which assumed full human control of the content of a legal transaction in the making. As the civilisation developed and commerce became more complicated, it became clear that such assumption had become largely fictitious even in the analogue system.

This can be very clearly seen in legal transactions concluded by legal persons. In theory, legal persons act through their bodies as prescribed by the provisions of civil law. In practice, however, particularly in large corporations, organs of a legal person are not aware of a significant portion of legal transactions carried out by those entities. It is a natural consequence of the scale of their operations. Therefore, legal persons operate through their numerous representatives who are a kind of extension of their organs.

The current system of law recognises these realities and establishes appropriate legal frameworks for actions undertaken by representatives of legal persons. These frameworks provide for *inter alia* specific rules on actions by authorised representatives as well as certain presumptions e.g. regarding persons on duty on business premises.

However, as digital commerce developed, there emerged new phenomena to which the existing legal frameworks apply in a very limited extent. Apart from acknowledging that declarations of will may be made in a digital form, the legal system has failed to address the key challenges of digital commerce. In the context of the rules on making declarations of will, these challenges include *inter alia*:

- Loosening, and in extreme cases also complete severing of the relation between the awareness of an authorised representative of an entity and the results of actions of a tool used to communicate on behalf of that entity;
- Lack of systemic presumptions regarding attributing the results of actions of automated tools to specific legal entities.

Without addressing the aforementioned challenges, a kind of legal void may be created in which it will be impossible to clearly attribute the results of actions of automated systems to specific parties. Legal transactions concluded in this manner will be potentially flawed.

The fact that digital commerce with the participation of legal persons is already taking place today, even without applicable systemic solutions in place, by no way means that it is legally safe. It is accompanied by many fictions and assumptions (e.g. that automated declarations generated by IT systems actually come with "the will" of the authorised representatives) which are relatively easy to refute in the event of a dispute. This can be seen clearly in the case of disputes regarding erroneous functioning of IT systems which generate automatic messages. As it transpires, establishing whether such messages produced binding

declarations of will is not that easy or obvious. Further development of digital commerce may not be based on fictitious assumptions regarding human participation in automated commerce. It is necessary to lay solid legal foundations providing for the rules on making declarations in this type of commerce.

CURRENT REGULATIONS ON ELECTRONIC SEAL

Definitions

The term "electronic seal" is currently defined under Article 3(25)-(27) of Regulation (EU) of the European Parliament and of the Council No. 910/2014 of 23 July 2014 on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC ("**eIDAS Regulation**").

The eIDAS Regulation has introduced three types of an electronic seal - electronic seal, advanced electronic seal and qualified electronic seal.

"Electronic seal" means data in electronic form, which is attached to or logically associated with other data in electronic form to ensure the latter's origin and integrity; It is not required that an electronic seal must enable identification of the creator of the seal.

"Advanced electronic seal" means an electronic seal, which in accordance with Article 36 of the eIDAS Regulation meets the following requirements:

a) it is uniquely linked to the creator of the seal;

b) it is capable of identifying the creator of the seal;

c) it is created using electronic seal creation data that the creator of the seal can, with a high level of confidence under its control, use for electronic seal creation; and

d) it is linked to the data to which it relates in such a way that any subsequent change in the data is detectable.

Finally, "qualified electronic seal" means an advanced electronic seal, which is created by a qualified electronic seal creation device, and that is based on a qualified certificate for electronic seal;

Legal effects of electronic seals

Legal effects of electronic seals are set out in Article 35 of the eIDAS Regulation.

In accordance with the eIDAS Regulation, an ordinary electronic seal shall not be denied legal effect and admissibility as evidence in legal proceedings solely on the grounds that it is in an electronic form or that it does not meet the requirements for qualified electronic seals. This means that a court may not deny admissibility of a document stamped with an electronic seal as evidence in legal proceedings. However, an ordinary seal does not enjoy the presumption of integrity of the data and of correctness of the origin of that data to which it is linked. This presumption is enjoyed only by a qualified electronic seal. Although this presumption is possible to be refuted, the proof to the contrary must be produced by the party that intends to draw benefits from it. Also, a qualified electronic seal based on a qualified certificate issued in one Member State shall be recognised as a qualified electronic seal in all other Member States.

However, the EU legislator has not defined any further reaching legal effects of using electronic seals or manners in which they can be used (apart from authentication of websites). Therefore, the legislator has not ruled whether using electronic seals meets the requirements regarding electronic form of concluding legal transactions by the creator of the seal. Thus, unlike in the case of an electronic signature, the legislator has not attributed an electronic seal the same meaning as to a handwritten signature.

The provisions of the national law do not attribute to an electronic seal the same effects as they do in the case of an electronic form. Article 78^1 of the Civil Code clearly states that in order to observe electronic form for a legal transaction, it is required to make a declaration in an electronic form set a qualified electronic signature to it. At the level of general norms of the Code there are no rules which would give an electronic seal a meaning other than a document form which is materialised by submitting a declaration of will in the form of a document that is any carrier of information in a manner that enables identification of the person submitting the declaration.

In summary, one should consider that under the current state of law an electronic seal is not an instrument which can be used for making declarations of will. In particular, it is not possible to deem declarations of will made with the use of electronic seals as electronic form. An entity using it, although an advanced electronic seal allows identification of that entity, cannot use the seal to make a declaration of will without simultaneously identifying the person/persons who actually use the seal. Achievement of the effect of a declaration of will would be possible only after introducing appropriate amendments to the provisions of law which would allow legal persons to make declarations of will with the use of an electronic seal, i.e. without revealing the identity of their representatives.

Current legal bases for using electronic seals

Use of electronic seals to make declarations of will has been provided for in Czech law since 2000. In that country, the seal serves both as the guarantee of authenticity and integrity of a document signed with it and as a confirmation of declarations of will made by legal persons. It is used by tax authorities. In Ireland, the seal is used by notaries. In Spain, electronic seals have been introduced in 2015 as a tool to issue e-invoices.

The widest use of electronic seals is provided for in the draft Belgian bill aligning the country's law to the requirements of the eIDAS Regulation. In accordance with the draft, a qualified electronic seal may be used in legal relationships established between natural and legal persons having their place of residence or established in Belgium, and it has the same legal effect as a handwritten signature of a natural person representing a natural person. However, it cannot be confirmed with generally available sources of information whether the Belgian draft bill has entered into life.

In Poland, electronic seals have been used by public administration authorities since 2005. The basis for this was laid in the Regulation on the technical conditions of serving documents upon public entities through an electronic mailbox, issued under Article 16(3) of the Act of 17 February 2005 on the computerisation of activities of entities performing public tasks. The definition of an official acknowledgement of receipt as "data attached to an electronic document" provided in the Regulation (Article 2(4)) means, functionally, an electronic seal, albeit limited to the use in electronic mailboxes.

In accordance with the Regulation, "official acknowledgement of receipt" means electronic data attached to an electronic document served upon a public entity or linked to that document in such a way that any subsequent change in the document is detectable. The data includes:

- the full name of the public entity upon which the electronic document has been served,
- the date and time of service of the electronic document understood as the date and time of introducing or transferring the document into the public entity's ICT system,
- the date and time of generation of the official acknowledgement of receipt.

In practice, electronic seals have been introduced by e.g. the authorities of Wołomin. Article 3(3) of Resolution of the City Council No. XXVIII-155/2016, in force since the beginning of 2017, regarding the template of a declaration on the amount of the charge for communal waste management submitted by real property owners (Official Journal of the Mazowieckie Province of 2016, item 9371) provides that such documents, when sent electronically, may be stamped with a qualified electronic seal.

Limitation of the use of electronic seals in Polish law

Due to the limited legal effects assigned in the legislation, a wide use of electronic seals in legal relationships between legal persons and between legal and natural persons is limited.

In the current state of law, the practical use of electronic seals is limited only to situations where the recipient expects integrity of a given document and certainty that the document comes from a specific legal person without the need to identify the natural person who made it available. An electronic seal will find no use where it is required to confirm the signatory of a document.

Therefore, and most importantly, electronic seals will have no use in legal relationships related to concluding legal transactions, in particular when concluding agreements. Validity

of an agreement concluded with the use of an electronic seal would be conditional on confirmation of its conclusion by persons authorised to represent the legal person.

Furthermore, electronic seals will have no use in the authority-citizen relationship, where specific regulations define the requirements regarding signing decisions, certificates and other official documents by authorised signatories acting on behalf of public authorities.

OUTLINE OF THE CONCEPT OF EXPANSION OF THE LEGAL SCOPE OF ELECTRONIC SEALS

The idea

Everywhere automation comes into play, the related processes must be simplified as far as possible, including in particular elimination of manual actions carried out by humans. This applies not only to the process of exchanging information alone, but also to preparatory processes based on all types of verification aimed at confirming the capability of establishing automated communication between specific and identified entities while maintaining an acceptable level of risk.

An advanced electronic signature, equated with a handwritten signature of a natural person, is technologically tantamount to an advanced digital seal. The use of an electronic certificate to sign a specific document is much safer than a traditional signature, for in addition to confirming the identity of the signatory, it also guarantees the integrity of the document. In practice, it means that the recipient can be sure that the document has been signed by a specific person and delivered in its original, not manipulated version. If a document is created in a structured form and signed with the use of an advanced electronic signature, it is possible to automate its processing, including confirmation of the correctness of the signature of the submitting person. This in turn enables using such signature also in automated communication between IT systems.

For enhancing the level of automation of processes in relations between legal persons, or processes in which legal persons participate, it is necessary to put in place a tool that would be similar both in terms of safety and legal effects. The authors propose to make an electronic seal such a tool, provided that a document signed with it can be deemed as confirmed in accordance with the rules of representation of a given entity. If no appropriate legal effects are assigned to an electronic seal, it will be practically impossible to confirm the authenticity and official capacity of the person submitting a document in automated communication. Considering the volume of documents processed, it will prevent automation and establishment of reliable communication through IT systems.

At present, the following documents must be submitted to obtain an electronic seal:

- an extract from KRS, not older than 6 months since the date of its issue, or a printout from CEiDG for sole proprietors,
- a certificate of the assignment of NIP number,
- a certificate on the REGON identification number,
- powers of attorney (if the applicant is not an organ of a given entity – i.e. he/she is not a person authorised to sole representation of that entity).

This represents a whole set of necessary documents which, in the case of declarations of will, must be verified manually and individually by each respective customer. When contemplating the future recognition of the seal in question in international relations, it is worth taking into

account the use of the LEI code, a global legal entity identifier, as part of the seal reference data.

Furthermore, it must be highlighted that electronic signatures set with the use of applicable electronic certificates are much more difficult to forge than handwritten signatures, and that their authenticity can be verified without any graphology skills required when comparing a signature with e.g. a signature specimen card. Thus, applying that technology, while using an appropriate shortcut function level (e.g. SHA-256) and maintaining elementary safety rules as regards protection of access to the electronic seal, practically prevents forgery or falsification of the content of documents.

Allowing the use of electronic seals to conclude electronic legal transactions would significantly optimise communication processes and, more importantly, reduce the need to verify and manage powers of attorney granted to the customer's representatives. In the current market reality, these processes are costly and often inadequate to the risk level. Nevertheless, in the absence of appropriate legal mechanisms that would minimise these risks and provide for functioning of a full legal trust environment, electronic seals will not find their use for as long as no appropriate amendments are made.

Legal essence of the proposed solution

The authors propose establishing a new legal presumption regarding actions undertaken by collective entities in digital space. The solution provides for associating the legal presumption with the fact of use of an electronic seal. As a result of the presumption, the entrepreneur with whom a given electronic seal is associated would be bound by the content of declarations (including declarations of will) stamped with the electronic seal. This would give customers of that entrepreneur a guarantee that a given declaration comes from that specific entrepreneur and, which is not provided under the current system of law, a presumption that the declaration has been made by a duly authorised representative. This would relieve the customer from the need to conduct a costly and time-consuming verification of authorisations on the side of the entrepreneur.

The authors propose to base the solution in question on an electronic seal as understood under the eIDAS Regulation, for this instrument has been technologically developed and legally established in Polish and European regulations. The current legal frameworks assign a specific legal scope to electronic seals which, however, does not allow them to be used for the purposes discussed in this paper. In this context, the proposed solution involves an intervention by the legislator to expand the legal effects of the use of electronic seals. This objective can be accomplished by designing an appropriate legal presumption, similar to the one that exists in analogue commerce.

A certificate linked to an electronic seal puts the other party to a transaction in the same position as in the case of a customer of a legal person on the business premises. A customer being in appropriately arranged premises of the entrepreneur can safely assume that persons on those premises are authorised to act on behalf of the entrepreneur. Similarly, a party

receiving a declaration stamped with an electronic seal can safely assume that the declaration has been made by an authorised representative of the entity named in the seal certificate, as the use of the seal requires access to appropriate authentication data which at the time of creating the seal was provided to the authorised representative of the legal person to which that electronic seal was issued.

Digital actions are normally carried out remotely and do not require contact between a customer of an entrepreneur and a specific natural person representing that entrepreneur. In practice, electronic actions very often do not require any identification of the entrepreneur's representative. The proposed solution should take the specific nature of digital commerce into account. Therefore, rather than on identification of a specific representative of an entrepreneur, the effectiveness of the presumption should be based on the sole fact of using an electronic seal to make a specific declaration. The presumption creates an assumption that duly authorised representatives of an entrepreneur who were originally given access to the authentication data necessary to use the seal had organised their activities in such a manner that they use the authentication data solely in a conscious and controlled way.

The solution should provide for addressing both Challenges analysed in this paper. As regards Challenge 1, the presumption in question will result in relieving contractor from time-consuming and inefficient verification of the chain of authorisations on the side of the entrepreneur. Thus, it has a chance to contribute to increasing the efficiency of digital commerce.

As regards Challenge 2, the presumption creates a chance to regulate the legal status of actions performed completely or partially without human involvement. Such actions are conducted already today, although many of them take place in legal void. The proposed solution would provide for mitigating negative consequences related to the absence of clear rules regarding automated declarations by prescribing that declarations which have specific properties (i.e. made with the use of an electronic seal) could enjoy the presumption and would be binding upon the entity to which the electronic seal has been assigned. On the one hand, such a solution would increase the legal safety of customers of entrepreneurs which use automated systems to make declarations, an on the other, it would force the entrepreneurs to enhance their control of automated systems used in their operations.

The solution assumes that the presumption will have a universal application. It could apply to B2B and B2C relations as well as to relations with administration authorities. For pragmatic and prudential reasons, an option to consider is to gradually incorporate the presumption into legal system. At the first stage, the presumption can be tested to a narrow extent by limiting its applicability to e.g. a specific sector of economy.

Extending the legal effects of the use of electronic seals appears to be acceptable from the perspective of EU law, in particular the eIDAS Regulation. The latter, in its Article 35, establishes specific presumptions related to electronic seals. At the same time, it does not forbid legal systems of respective Member States to assign additional legal meaning to electronic seals.

Legislative proposal

Below, he authors present a working version of proposed legislative changes aimed at introducing the legal presumption in question into the legal system.

LEGAL PRESUMPTION RELATED TO THE USE OF ELECTRONIC SEALS
"In the event of any doubts, declarations made with the use of a qualified electronic seal with respect to legal transactions indicated in the qualified electronic seal certificate shall be deemed as made by the entity named in the valid qualified electronic seal certificate, unless the qualified electronic seal was used beyond control and at no fault of that entity"

ELECTRONIC FORM
"In order to observe electronic form for a legal transaction, it is required to make a declaration in an electronic form set a qualified electronic signature or a qualified electronic seal to it."

Referring to the legislative proposal, the authors wish to draw attention to the following issues:

- The proposal in question is of preliminary and working nature. Its primary purpose is to inspire a discussion on the solution discussed in this paper;
- The authors propose limiting the presumption only to situations where a declaration is accompanied by a qualified electronic seal. This is the safest solution which significantly increases the likelihood that the electronic seal remains under actual control of the entrepreneur;
- The authors assume that provisions regarding the legal presumption in question should be introduced into the Civil Code due to their general meaning. At the same time, the authors admit a scenario in which the presumption is introduced into the legal system by stages. At first, the presumption can be introduced only to certain sectoral regulations, e.g. where provisions in force provide for electronic communication between entities operating within closed systems established under law or contract, i.e. in cases to which the Act of 5 September 2016 on trust services and electronic identification does not apply. Sectoral solutions regarding electronic communication can be found, in particular, in the provisions of Article 7 of the

Banking Law, Article 43 of the Act on insurance and reinsurance activities, Article 35 of the Act on investment funds, Article 13 of the Act on trading in financial instruments, Article 6 of the Act on public offering and conditions for introducing financial instruments into organised trading, and on public companies.
If the pilot stage of the functioning of the presumption was successful, it could be expanded into other segments of the market;

- The authors assume that, as is the case with the presumption applicable to persons on duty on business premises, it will be necessary to put in place certain systemic restrictions in the applicability of the presumption in question. The purpose of such restrictions would be to mitigate negative effects of situations where an electronic seal has been taken over by unauthorised persons. The likelihood of such situations has been significantly reduced by safeguards implemented in the electronic seal, but it cannot be completely ruled out. The proposal excludes application of the presumption if the qualified electronic seal is used beyond control and at no fault of the entrepreneur. Furthermore, the proposal provides for restricting the applicability of the presumption by defining - in the qualified electronic seal certificate - parameters of actions which are allowed to be carried out with the use of the seal. The presumption would then apply only to actions that meet such parameters;
- Also, as a natural consequence of the presumption, it should be deemed that declarations of will stamped with a qualified electronic seal provide for maintaining an electronic form of legal transactions. For this reason, the authors put forward a proposal to amend accordingly the provisions of the Civil Code regarding an electronic form of legal transactions.

AML PROVISIONS AS AN OBSTACLE TO PRACTICAL APPLICATION OF THE PROPOSED SOLUTION

The authors that the full use of the proposed legal presumption to address the challenges discussed in this paper may be hindered by the provisions of the Act of 1 March 2018 on prevention of money-laundering and terrorist financing ("**the AML Act**"). Indeed, application of those provisions requires identification of specific persons acting on behalf of collective entities. Although the problem concerns only those entities that are subject to the AML Act, bearing in mind that the scope of the AML Act now covers many important economy sectors, its significance is in practice very high.

In accordance with Article 34(2) of the AML Act, obliged institutions shall identify persons authorised to act on behalf of the customer and verify their identity and authority to act on behalf of the client. Such natural persons are verified *inter alia* on the basis of the identification data in their identity documents. The purpose of the requirement is to reflect the recommendation indicated in the interpretation note to FATF Recommendation 10[1] in the Polish legal system and to implement Article 13(1) of Directive 2015/849, on which the polish AML Act is based in this respect.

However, one should highlight an important difference between the AML Act and the FATF Recommendation and Directive 2015/849. In accordance with Article 13 of the Directive, *"When performing the measures referred to in points (a) and (b) of the first subparagraph, obliged entities shall also verify that any* ***person purporting to act on behalf of the customer*** *is so authorised and identify and verify the identity of that person."* The content of the Directive in this respect is the exact reflection of the FATF Recommendation. In the provision quoted above, the identification and verification obligations applies only to persons who purport to act on behalf of the customer. Meanwhile, the content of Article 34(2) of the AML Act suggests that a person authorised to act on behalf of the customer is always subject to identification.

The difference becomes particularly noticeable with respect to transactions carried out with the use of automated transaction systems. In such event, there is often no *"person purporting to act on behalf of the customer"*. In the light of Directive 2015/849, one could assume that in the case of such transactions there is no obligation to identify the representative of a collective entity. However, the AML Act does not appear to create any space for differentiating types of transactions, and it requires identification of any person acting on behalf of the customer also in the case of automated transactions.

The general rule expressed in Article 34(2) is further specified in Article 36 of the AML Act which lists types of identification data of a person authorised to act on behalf of the

[1] http://www.fatf-gafi.org/media/fatf/documents/recommendations/pdfs/FATF%20Recommendations%202012.pdf, p. 58

customer that must be collected by obliged institutions as part of the customer identification process. Under Article 41, the absence of ability to run identification in accordance with the AML Act should entail in absence or termination of economic relations with a given customer.

The aforementioned provisions are complemented by Article 72(6)(3), which in turn requires that information transferred to the Inspector General for Financial Information (*Inspektor Generalny Informacji Finansowej*, GIIF) by obliged institutions should include also specific data of the representative of the legal person or organisational unit without legal personality concluding the reported transaction.

Therefore, the provisions of the AML Act prescribe that obliged institutions must acquire and verify data of persons representing their customers regardless of whether or not transactions subject to the AML Act are carried out through automated systems. The solution proposed in this paper, albeit likely to make digital commerce more efficient from the civil law perspective, will therefore not entail any modification of the obligations arising from the AML Act. Thus, advantages offered by the presumption would be very limited.

To change this, it would be required to amend the AML Act or at least issue a specific interpretation regarding application of its provisions to automated transaction systems so that the AML Act treated identification of a person representing the customer in the same manner as Directive 2015/849 and the FATF recommendations.

In line with the principle expressed in Directive 2015/849 and FATF recommendations, the AML Act should impose an obligation to identify persons representing the customer only where these persons purport to act on behalf of the customer. Such situations will undoubtedly take place in most analogue transactions. Forms of making declarations of will regarding such transactions require a person who will make such a declaration. Automated systems operate differently, which has been highlighted many times in this document. These systems operate automatically, often autonomously, without any human participation. Therefore, there are no "*persons purporting to act on behalf of the customer*" there.

In the case of transactions carried out by automated systems, the AML obligations should focus on correct identification of collective entities carrying out transactions with the use of such systems (the solution discussed herein can be very helpful in this respect). Given the specific nature of operations of these systems, the obligation to identify the representing person is, in practice, an act of forcing to create certain fiction. Indeed, obliged institutions must identify specific representing persons although the latter may in fact not take any conscious part in transactions carried out by automated systems. A regulatory obligation which consists in creating fiction should be deemed as excessive formalism which reduces the flexibility in running economic activities and fails to create any added value.

Attention should also be drawn to Article 43(2)(7) of the AML Act according to which establishing economic relations with a customer without the latter's physical presence represents – in principle – a higher risk of money laundering. At the same time, Article 43(2)(7) provides for an exception from that principle where the customer is identified by means listed therein, particularly a qualified electronic signature. However, the means listed in that Article do not include a qualified electronic seal. It therefore seems that introduction

of the presumption discussed in this paper into the civil law system would require adding a qualified electronic seal to the list of tools which provide for mitigating the risk of money laundering, as such seals enable very reliable identification of collective entities.

POTENTIAL FOR TECHNOLOGICAL DEVELOPMENT

In the authors' opinion, the proposed solution creates vast space for development of technologies that may significantly improve the safety of the presumption in the practice of commerce. Presented below are several potential solutions discussed during workshops which preceded preparation of this paper.

Restrictions embedded in the certificate

Qualified electronic seal certificates can contain additional, non-obligatory attributes such as e.g. parameters of legal transactions carried out with the use of the seal as well as addressees of legal transactions carried out with the use of the seal. Thanks to introducing additional parameters to the certificate, its user can better control the use of the certificate (e.g. by setting the maximum value of a legal transaction which may be effected with the use of the seal). Appropriate standardisation of such additional attributes would enable enhancing automation of their processing.

Intelligent systems for conducting acting with the use of seals

Standardisation and automation of processing of additional attributes contained in seal certificates would make it possible to build systems for concluding digital contracts which can automatically verify whether the parameters assigned to the electronic seal permit conclusion of a given transaction. Such system could be put into action by creating a standard of parametrisation of legal transactions and authorisations related to the seal. The advantage of such solution over traditional restrictions of authority is that the former would be "self-executable" i.e. it would be technically impossible to use an electronic seal to carry out actions which are inconsistent with parameters predefined for the seal.

Seal use monitoring system

Since the presumption in question entails assigning declaration made with the use of electronic seals to specific legal persons, it becomes essential to ensure immediate response to cases of unauthorised use of such seals. This can be achieved by implementing a system of seal use logs which would enable on-going monitoring of such use. If an unauthorised use of a seal was detected, the seal could be immediately invalidated.

The authors assume that the system for recording seal use logs could be developed on the basis of various technological solutions.

Potential for the use of the Blockchain technology

At present, the use of the Blockchain technology for the purposes of distributed identity (self-sovereign identity) a particularly interesting technological trend. The potential for using that technology can be seen also in the electronic seal solutions described herein.

In this context, the Blockchain network can be interpreted as a unified, generally available and immutable ledger. However, in addition to storage of data, that ledger provides for programming a special logic related to controlling access to data stored therein (reading, saving) by means of the so-called smart contract mechanism.

One can therefore imagine a register which would store information on electronic seals issued by a given company and provide for a unified set of operations that can be signed with those seals - for instance, if one wants to conclude a commercial transaction with the use of a seal, then the smart contract mechanism will check whether the amount and subject of the contract fall within the acceptable limits, and will either accept the transaction or wait for an additional authorisation.

Such sets of allowed operations could be standardised and made generally available to businesses without the need for those businesses to incur any costs related to maintenance of their own infrastructure meant for processing such information.

At the same time, operations carried out in such a ledger would be transparent for the users (e.g. respective parties to a transaction or supervising bodies). This would definitely facilitate evidence gathering in the event of a dispute as well as responding to such potentially dangerous situations as e.g. unexpected, atypical use of a seal to carry out mass operations.

The use of the Blockchain technology in such a solution would allow businesses to manage and control electronic seals issued by them – for instance, it could enable revoking a seal (e.g. where it is discovered that a digital copy of the seal has been stolen) or restricting the authority to use it (e.g. by reducing the number of transactions allowed to be made without an additional approval) without interfering with the seal itself, as the parameters of the smart contract saved in Blockchain and responsible for verification of operations carried out with the use of the seal would be the only element to be updated.

An analysis of possible applications of the Blockchain technology to electronic seals is particularly interesting in the context of the planned development of such digital public services as e.g. the Shared national IT Infrastructure (*Wspólna Infrastruktura Informatyczna Państwa*, WIIP) project or the European Blockchain Services Infrastructure (EBSI), which could become the core of this solution.

EXAMPLES OF APPLICATION

BUSINESS CASE 1
TRADING PLATFORM

An online platform operating in the B2B segment provides for concluding online legal transactions between the entrepreneur that runs the platform and its customer - also entrepreneurs.

The platform provides for concluding transactions involving financial instruments. From the legal perspective, each operation carried out on the platform can be treated as a separate legal transaction requiring submission of an electronic declaration of will.

The operations are carried out with high frequency and often with a limited human participation.

Today, when parties to legal transactions carried out in such manner want to be sure that the legal transactions are valid and have been made by appropriate persons, they must trace back the chain of authorisations on the side of their customers in order to make sure that the person assigned to a given declaration of will is in fact duly authorised to make it. In the case of automated declarations provided by an IT system, even establishing the correct chain of authorisations may be insufficient to ensure legal security. Indeed, an automated declaration will always raise doubts whether a given message generated by an automated system was in fact brought to the awareness of a duly authorised representative of the customer.

As many present-day online trading platforms operate in this model, it shows the scale of legal uncertainty present in the contemporary digital commerce.

HOW DOES EXPANDING THE LEGAL SCOPE OF ELECTRONIC SEAL CONTRIBUTE?

In the case in question, the use of a qualified digital seal would not only guarantee that a specific declaration originates from a given entity, but it would also attach a presumption to that declaration assigning it to a specific person. This would relieve the customer from the necessity to verify the chain of authorisations or from the risk of failing to do so.

BUSINESS CASE 2
SELF-SOVEREIGN DATA

The concept of data management by data subjects is an important trend around which more and more interesting technological solutions are being built (e.g. Holochain, Ocean Protocol). According to this trend, data subjects own data relating to them and decide to whom and under what conditions they make the data available. Data provision/transfer processes are automated.

A data subject sets different data provision parameters for different categories of data. The parameters are saved in the form of smart contracts, with standardised conditions presented to entities interested in accessing the data.

Access to the data and any possible data transfers take place peer-to-peer in an automated manner. The data is stored in IT infrastructure controlled by the data subject. Data queries are executed through the API. Access to the data and any possible data transfers are based on standardised smart contracts.

Circulation of the data requires conclusion legal transaction, including submission of declarations of will. This, however, takes place automatically. The interested entity's system automatically sends a query which reaches the data subject's system. The expected transaction parameters are presented and a contract with specific content is concluded automatically. The process does not directly involve any human action.

This concept is applied to e.g. circulation of medical data. Research institutes and pharmaceutical companies search for medical data with specific parameters for the purpose of developing new medications or therapies. The ordering party's system defines the desired data parameters and then sends a query. When the requested data is found, the transaction parameters are established (the price for the data, duration of use etc.) and then the transaction is concluded and effected automatically. Everything takes place without any human involvement.

HOW DOES EXPANDING THE LEGAL SCOPE OF ELECTRONIC SEAL CONTRIBUTE?

A data subject could employ a solution forcing its customers to use a qualified electronic seal to get access to its data. This would make the data subject sure that the customers are bound by obligations arising under a data acquisition contract. This would also enhance the safety of the circulation while offering advantages provided by automation provision of data by that data subject.

ABOUT THIS DOCUMENT

This document is a result of work of the distributed ledgers group operating at the Ministry of Digitalisation and workshops conducted as part of the Coalition for Polish Innovation initiative.