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Dear Reader,

lately the blockchain became a hot topic in Europe although it has already been in existence for a number of years. Today we present its possible ways for implementation while at the same time reflecting on impacts from German and European law.

We hope this meets your interest. As usual any remarks and feedback are always welcome.

Best regards,

Thomas & Team

Blockchain – The future of e-notarization?

How it used to be

The blockchain technology was first published in 2008. Still many people at least in Europe have no clear idea about its function. Basically the blockchain can be described as a data medium build upon a digital network typically spread through the use of the internet.

The data medium as such is build out of small data blocks with limited storage capacity. If the capacity of one data block is reached another data block has to be created, to increase the total storage capacity. The creation of data blocks is performed by the so called miner. The miner's computer hardware has to solve a mathematical equation using an algorithm to create a new data block. Additionally, each data block is connected with a unique hash number which can be seen as the fingerprint of the data block and its content. Subsequently the content and hash number of each data block are verified by all other data blocks already in existence. As a result a chain of data block is created, the blockchain.

If the content of the data block is changed, the hash number does no longer correspond to it and the verified data block cannot be connected to the rest of the chain. The only chance to change this would be to create new hash numbers for each block of the chain. However, due to time and



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capacity restraints this is nearly impossible.

The blockchain technique may be used to replace formerly used centralized entities with secured flows of information such as registers and banks. Could this even be applied in case of notarial work? The German notary public has the function of a neutral institution at law ensuring that the content of documents such as contracts properly reflects the interests of the parties and to give legal advice by drafting the necessary instruments to carry out the transactions. Also, the notary has to ensure that the interests of the general public are not violated. The notary therefore verifies the identities of the person appearing as parties and that the agreements are in general coherence with applicable law. The authentic instruments thus created and validated by the notary have an increased legal value of evidence.

What is new

A fairly obvious use of the blockchain may be the identity check of the parties seeking legal support from a notary public. By using fingerprints or iris scans one may create a digital signature only accessible for a specific person (so called private key). This signature may be stored on a blockchain to avoid later modifications by unauthorized use by third parties. The signature may be electronically connected to a document which is again stored on the blockchain. To make the signed document accessible one could create and store on the blockchain an identification code which is integrated in the document (public key). Everyone with the public key could access the document. The result would be an electronically signed and individualized document, accessible by everyone holding the public key and secured against later modifications. Legal certainty and a high level of evidence would be ensured. Parties would no longer have to be physically present in front of the notary to ensure their identity.

What does it mean for the future

However, the duty of the notary to secure the interests of the parties involved as well as the general public would still remain. The scope of digital simplification of notarial work in individual cases is therefore rather limited, especially when it

comes to highly individualized agreements, such as in the field of M&A. Therefore a detailed analysis of the notary to find proper ways of problem solving is still necessary and key.

Another problem is that the blockchain needs the input of data that shall be stored and transferred. However, land and company registers as well as banks have limited access to a publicly created blockchain network in Europe if at all. A potential implementation is still far in the future. Also in Germany the experiences with the implementation of new digital infrastructure is rather complex. Just recently the attempt to introduce a digital lockbox for lawyers failed due to security problems within the digital network. Until now only Sweden and Estonia have established first systems but also in limited form with regards to the transfer and registration of real estate.

Moreover, the blockchain only allows a limited number of transactions per second. This is due to the fact that each data block already in existence has to check the hash number and content of each data block coming into existence. However, there are alternatives such as IOTA (Internet Of Things Alliance) and the possible development of the quantum computer.

Also, under European and German data protection law, it is problematic that it is not possible to delete information stored in the blockchain. The high security is based on its validation of its content and of each data block. Therefore, a deletion of a data block cannot be executed and a potential right to be forgotten as it has been discussed for years, and applied in the case Google vs. Spain ([C-131/12 CJEU](#)), would be impossible to implement. The only solution would be to hinder the access to the document but not erase its existence.

Overall it seems that the blockchain technology may (if it increases its number of transactions per second) in due course have the potential to simplify the transactions mainly through easier confirmation of identities and may be seen as a useful tool, if the state allows and arranges for the necessary technological implementation.

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