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## How Can Collateral Management Benefit from DLT?

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### 1 Executive Summary

There is a general consensus that distributed ledger technology (DLT) has both disruptive and evolutionary potential for financial markets. This paper focuses on potential implications in connection with collateral management activities for financial transactions, the aim being to analyze the challenges and opportunities of DLT in the current regulatory environment for this specific use case.

It is important to highlight that pure securities settlement services such as those currently provided by TARGET2-Securities (T2S), for example, are beyond the scope of this paper. The typical nature of collateral management activities is the temporary use of assets (securities and cash) for covering risk exposures. In particular, the opportunities resulting from an enhanced mobility of existing assets through the use of DLT will be investigated.

The use cases these considerations are built on are the coverage of exposures (“collateralization”) which regularly arise through a variety of underlying financial market activities such as securities lending or repo transactions, CCP and OTC exposures or monetary policy operations of central banks.

The core of the conceptual investigation in this paper is the use of securities - issued in the traditional way - as collateral in a DLT environment. Therefore, a trust model is introduced which blocks securities in existing systems and creates “representative” tokens. It serves as a reliable and neutral link ensuring regulatory compatibility and legal certainty. These tokens can then be transferred instantly between the participants in the network and thus be used as collateral. Token transfers are recorded on an immutable ledger which is shared between relevant parties.

In addition, there are technical requirements derived from the use case that have to be met. “Know your customer” (KYC) and anti-money laundering (AML) rules heavily influence the design choices made for the DLT solution, for example leading to a private and permissioned set-up. Other requirements are the speed and confidentiality of highly critical and sensitive transactions.

Even though considerable challenges exist, DLT has the potential to significantly change the current post-trade environment. Using DLT for collateral management has important advantages for the collateral taker and the collateral giver as the underlying operating model no longer requires securities to be moved across custodians<sup>1</sup>, thus enabling 24/7 availability of collateral and improving collateral fluidity. The accompanying removal of complex reconciliation efforts due to synchronized decentralized data structures – which are necessary between various actors in traditional systems – will allow for substantial cost reductions and enable (near) real-time legal title transfer of securities and baskets thereof. Furthermore, DLT-based collateral management will support enhanced regulatory transparency of collateral services by providing specific collateral monitoring tools.

From a purely technical point of view, a holistic DLT set-up of services for collateralization purposes may not be seen as a major challenge. However, given the fact that the financial industry operates with many traditional systems, the introduction of DLT can most likely not take place as a “Big Bang”. A significant period of time can be expected in which the existing infrastructures gradually adapt to the new technology. Consequently, old and new technologies will run in parallel during this transitional period. The existing infrastructures are designed to cater for versatile business cases and must take into account the complex regulatory environment. Therefore, the main challenge lies in

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<sup>1</sup> For the purpose of this paper the term custodian also includes Central Securities Depositories (CSDs)

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