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JSF and The University of Tokyo Release Report on Empirical Research on Securities Finance Transactions using Distributed Ledger Technology

TOKYO, May 30, 2023 --- Japan Securities Finance Co., Ltd. (“JSF”) and the Graduate School of Engineering of The University of Tokyo (“The University of Tokyo”) have been conducting empirical research since April 2021 to explore the feasibility of using distributed ledger technology to facilitate transactions involving tokenized securities or collateral in repo transactions and securities lending and borrowing transactions (“Securities Finance Transactions”). This research concluded in March 2023 and today the two parties released a report compiling the results (*).

JSF was responsible for conceptualization and scheme planning, research of related market practices, and compilation of the final report, while The University of Tokyo was in charge of data analysis as well as review of basic technologies and systems concerning distributed ledger technology.

We expect that the findings of this research will be utilized for social implementation in a number of fields in the future, including the securities industry. In addition, we recognize that this research, through industry-academia collaboration, provided positive outcomes that address important sustainability issues recognized by JSF, especially contributions to the promotion of academic research activities and the infrastructure of securities and financial markets.

<Related SDGs>



(*) English version of the report will be published at a later date. Japanese version of the report can be accessed from the following link:

“Empirical Research on Securities Finance Transactions using Distributed Ledger Technology”

https://www.jsf.co.jp/media/report_dlt_230530_ja.pdf

For an outline of this research, please see the following document:

“Outline of Empirical Research on Securities Finance Transactions using Distributed Ledger Technology”

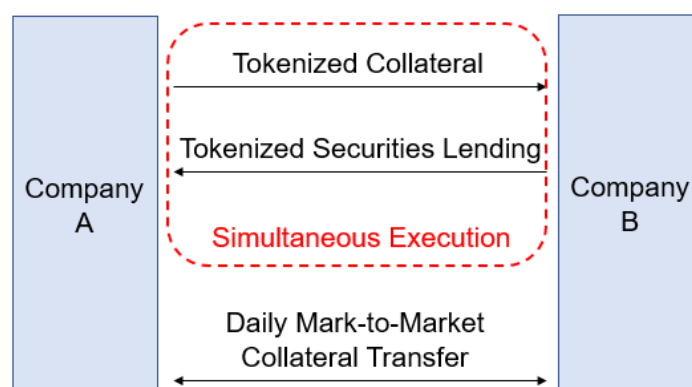
https://www.jsf.co.jp/media/presentation_dlt_230530_ja.pdf

The empirical research evaluated the following three points and found five implications.

➤ Details of Evaluation

- Feasibility of Securities Finance Transactions execution (individual bilateral transactions)
- System performance when processing transactions in market-wide scale
- Impacts of collateralized securities diversification and threshold setting for margin call on net credit amount and required liquidity, including the evaluation upon market turmoil

Conceptual Diagram of Individual Bilateral Transaction



➤ Implications

(1) Transaction feasibility

Various types of Securities Finance Transactions, including those involving the exchange of assets denominated in different currencies and securities tokens to securities tokens, can be smoothly implemented from the start of transactions through margin calls to the end of the contract period.

(2) Reduction of settlement risks and especially simultaneous execution of transactions denominated in different currencies

Token-to-token exchanges can be automatically conducted simultaneously without time difference, even if the underlying assets are denominated in different currencies. In addition,

margin calls can be automatically implemented without the need for operations by transaction parties.

(3) Reduced credit risk and economized liquidity

Automation of margin calls reduces administrative burden, making it easier to make margin calls, and credit risk may be reduced. In addition, the appropriate combination of collateralized securities diversification effect and margin call threshold setting can reduce credit risk and economize liquidity, especially during market turmoil.

(4) Streamlining of administrative work

Automation of settlement and margin call administration makes it possible for straight through processing (STP) and improving the efficiency of Securities Finance Transactions administration and managing administrative risk. In particular, this has the potential to significantly reduce the administrative work and time required to exchange transaction information and check status with foreign countries, thereby improving the efficiency of transactions.

(5) Utilization of assets with low liquidity

Since it will become easier to transfer rights of low-liquidity assets by tokenization, there is the potential to not only hold these assets, but also utilize them as collateral for Securities Finance Transactions (the valuation of the underlying asset itself may improve as the utilization value increases).

Through this research, we found that as noted above there are various possibilities for utilizing blockchain in Securities Finance Transactions. Going forward, we will continue to conduct further research while keeping close watch on the trends in technological innovations in Japan and abroad.

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<About JSF>

Japan Securities Finance Co., Ltd. (JSF), incorporate in 1950, is the sole securities finance company in Japan with a license under the Financial Instruments and Exchange Act. Its main business is the provision of funds and securities to securities companies for settlement of standardized margin transactions pursuant to the above law, and also provision of securities lending and financing. As an institution specializing in the securities finance business, JSF, with a keen awareness of this public role, has a mission of contributing to the development

of the securities market by proactively meeting the diverse needs of securities and financial circles and boosting the long-term interests of securities market participants. JSF's credit rating is AA- under both Rating and Investment Information, Inc. and Japan Credit Rating Agency, Ltd., and A under S&P Global Ratings. JSF's stock is listed on the Tokyo Stock Exchange.

For more information, visit <https://www.jsf.co.jp/english/>

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