

Communications

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## **BIS and central banks of France, Singapore and Switzerland successfully test cross-border wholesale CBDCs**

The Bank for International Settlements (BIS) and the central banks of France, Singapore and Switzerland have successfully concluded Project Mariana. The project tested the cross-border trading and settlement of wholesale central bank digital currencies (wCBDCs) between financial institutions using new decentralised finance (DeFi) technology concepts on a public blockchain.

Project Mariana was developed jointly by three BIS Innovation Hub Centres (the Swiss, Eurosystem and Singapore Hub Centres) together with the Banque de France, the Monetary Authority of Singapore and the Swiss National Bank.

The project's proof of concept successfully tested the cross-border trading and settlement of hypothetical Swiss franc, euro and Singapore dollar wCBDCs between simulated financial institutions. The process relied on three elements:

1. A common technical token standard as used by a public blockchain to facilitate exchange and interoperability between the different currencies;
2. Bridges for the seamless transfer of wCBDC between different networks; and
3. An Automated Market Maker (AMM), which is a specific type of decentralised exchange, to trade and to settle spot FX transactions automatically.

For Project Mariana, the AMM pooled the liquidity of the hypothetical Swiss franc, euro and Singapore dollar wCBDCs with innovative algorithms enabling spot FX transactions to be priced and executed automatically and settled immediately. Such protocols could be used by the next generation of financial market infrastructures facilitating cross-border payments between financial institutions.

**Press release**

Project Mariana’s architecture balances central banks’ domestic need for oversight and autonomy with financial institutions’ interest in efficiently holding, transferring and settling wCBDC across borders.

This is achieved through a modular, interoperable and flexible approach to exchanging wCBDCs in a hypothetical tokenised financial system. As such, Project Mariana offers possible approaches to factoring an international dimension into current wCBDC design explorations.

As tokenisation and DeFi technologies are still nascent, further research and experimentation is needed. The BIS Innovation Hub and its global partners will continue exploring their benefits and challenges based on relevant use cases.

Project Mariana is purely experimental and does not indicate that any of the partner central banks intend to issue wCBDC or endorse DeFi or a particular technological solution. It is the Innovation Hub’s first cross-centre project.

“In a potential future with tokenised assets, safe and efficient pricing and exchange mechanisms for cross-currency transactions remain essential. Project Mariana demonstrates the feasibility of such an infrastructure in an innovative way,” says Thomas Moser, Alternate Member of the Governing Board of the Swiss National Bank.