
The perspective of the Swiss National Bank

Collegium Helveticum
Colloquium on CBDCs, Zurich, 9 Mai 2023

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Alternate Member of the Governing Board

SCHWEIZERISCHE NATIONALBANK
BANQUE NATIONALE SUISSE
BANCA NAZIONALE SVIZZERA
BANCA NAZIUNALA SVIZRA
SWISS NATIONAL BANK



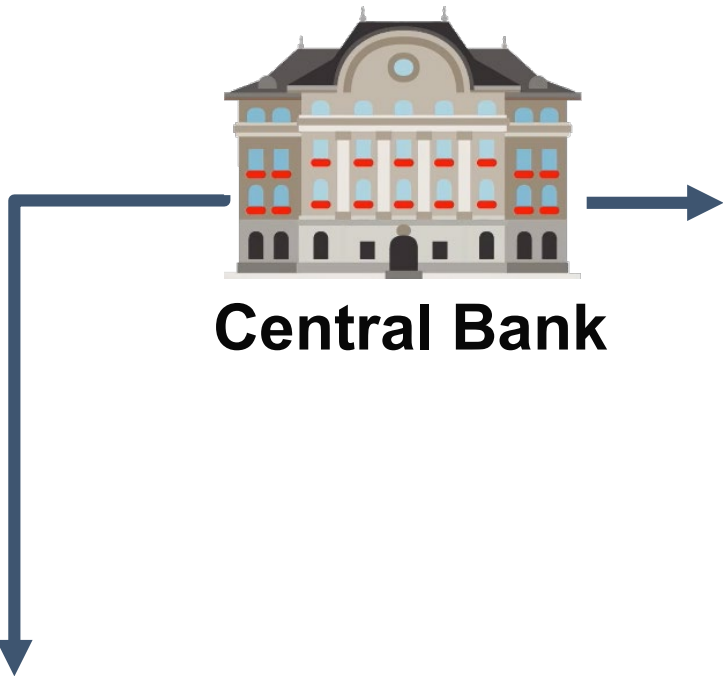
Agenda

1. What is Central Bank Money?
2. Do we need CBDC?
3. Different Models to settle tokenized assets in central bank money
4. SNB Projects
 - Projects Helvetia & Jura
 - Project Mariana
 - Project Tourbillon
 - Project Helvetia Phase III

I. What is Central Bank Money?

Current System

*Interbank
Payments*



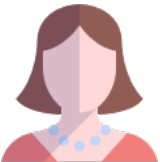
Central Bank
Deposits

RTGS



*Retail
Payments*

Banknotes



Current System

*Interbank
Payments*



Central Bank

Central Bank
Deposits

RTGS



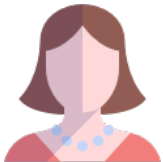
Bank A



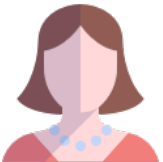
Bank B

*Retail
Payments*

Banknotes



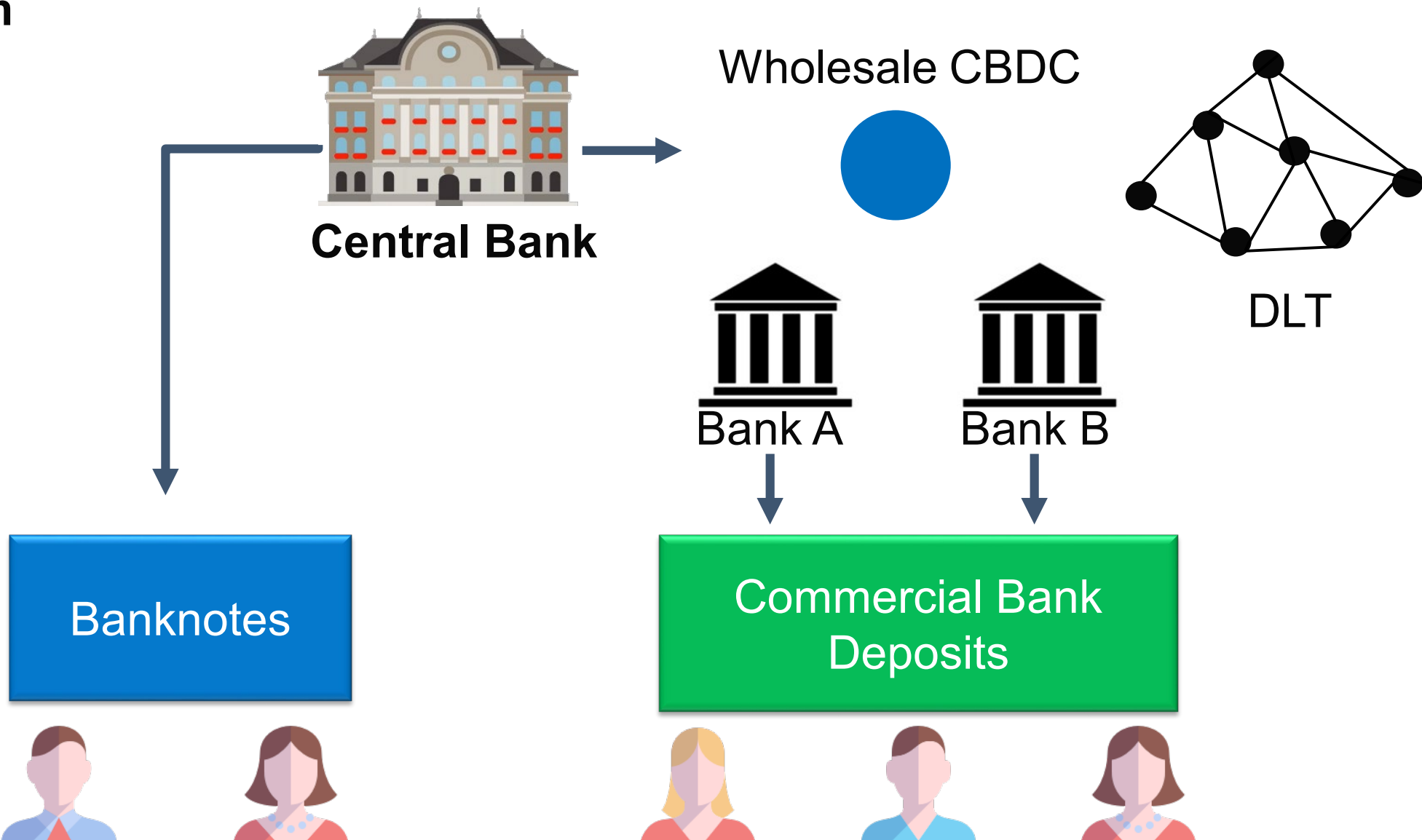
Commercial Bank
Deposits



DLT System

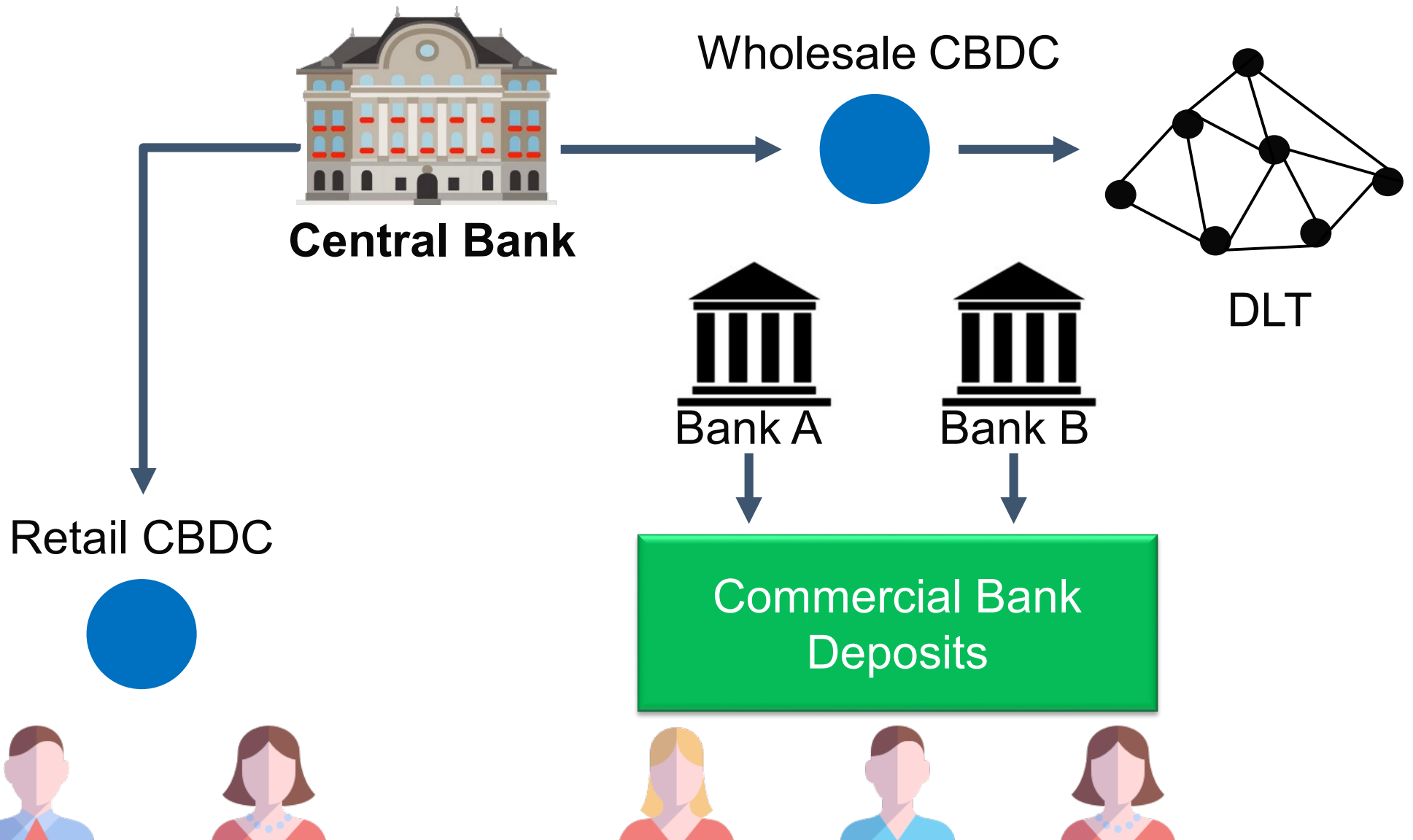
*Interbank
Payments*

*Retail
Payments*



DLT System

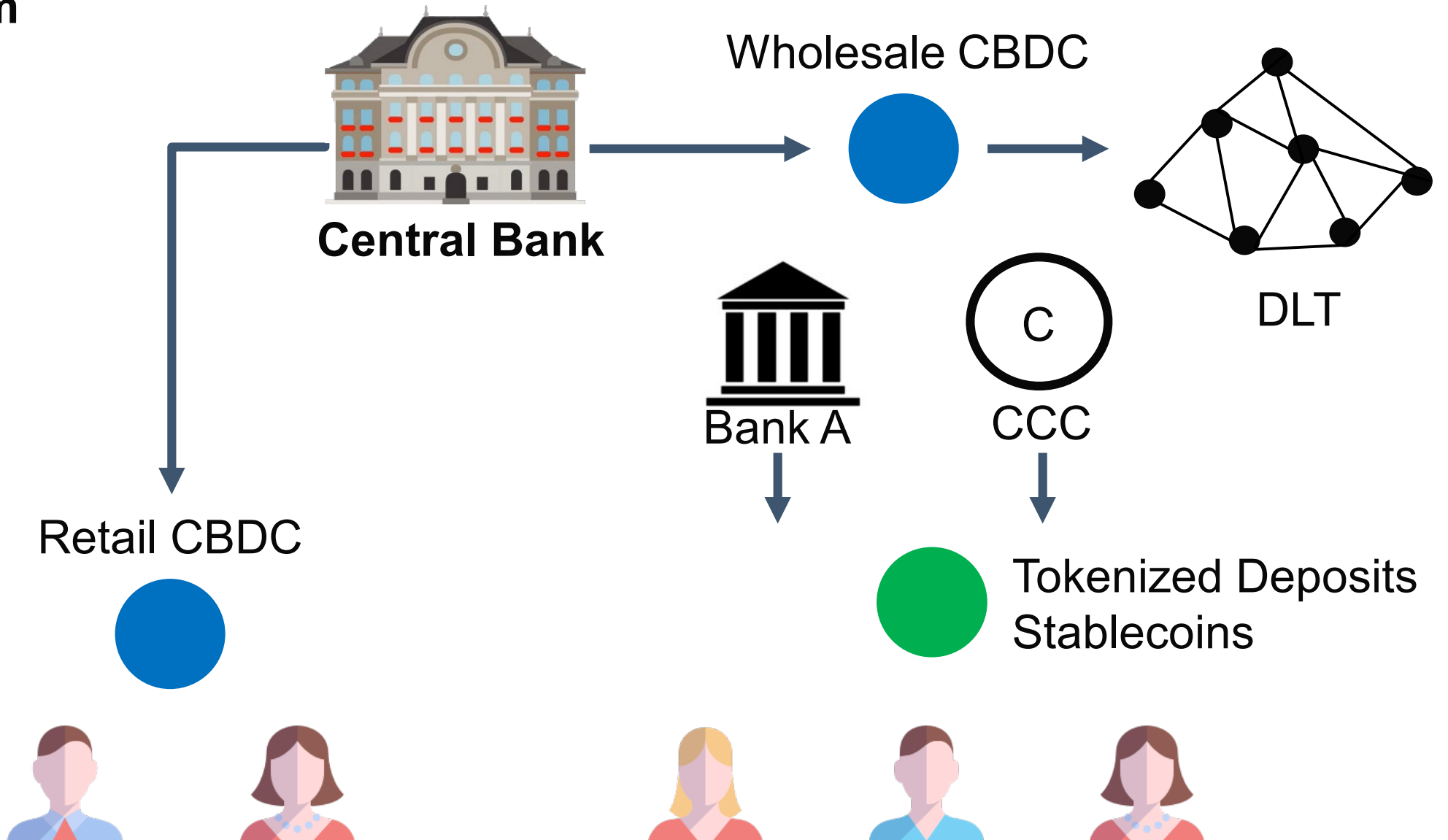
*Interbank
Payments*



DLT System

*Interbank
Payments*

*Retail
Payments*



II. Do we need CBDC?

Do we need CBDC?

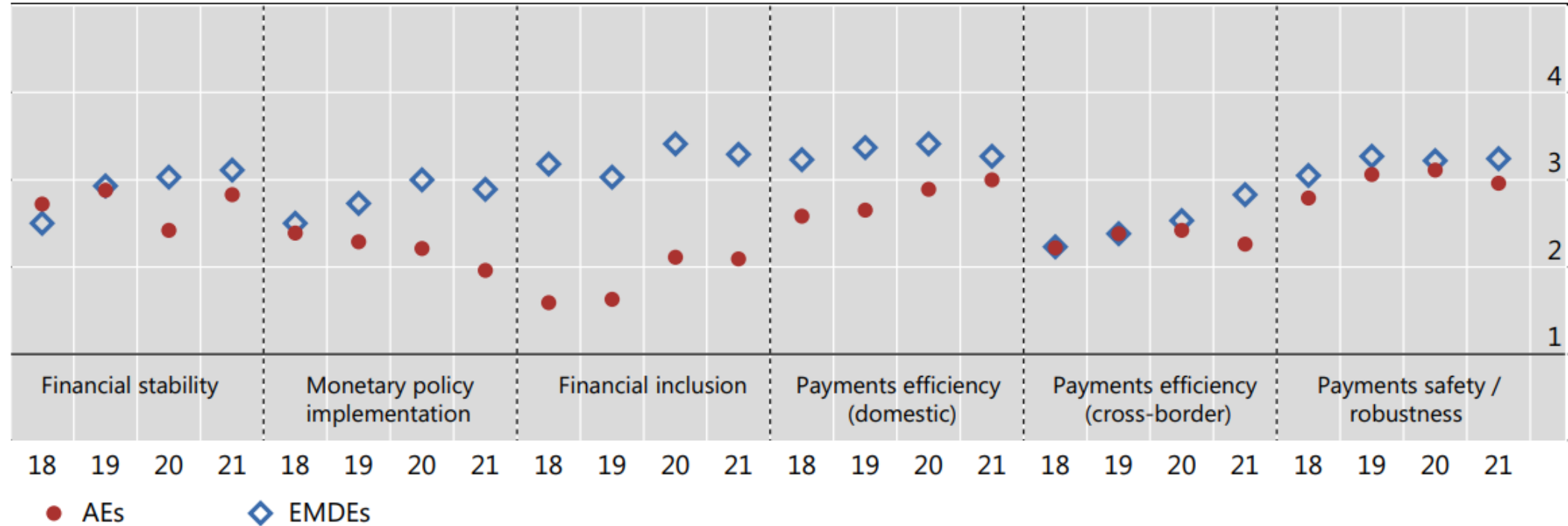
Retail CBDC: No.

- The SNB does currently not see a clear use case for a retail CBDC, at least not in Switzerland, and the SNB does therefore not intend to issue a retail CBDC.
- Motivations usually mentioned by central banks (next Slide) do not apply for Switzerland, at least not for retail payments.

Motivations for issuing a retail CBDC

Average importance

Graph 3



(1) = not so important; (2) = somewhat important; (3) = important; (4) = very important.

Source: 2021 BIS central bank survey on CBDCs and digital tokens.

Do we need CBDC?

Retail CBDC: No.

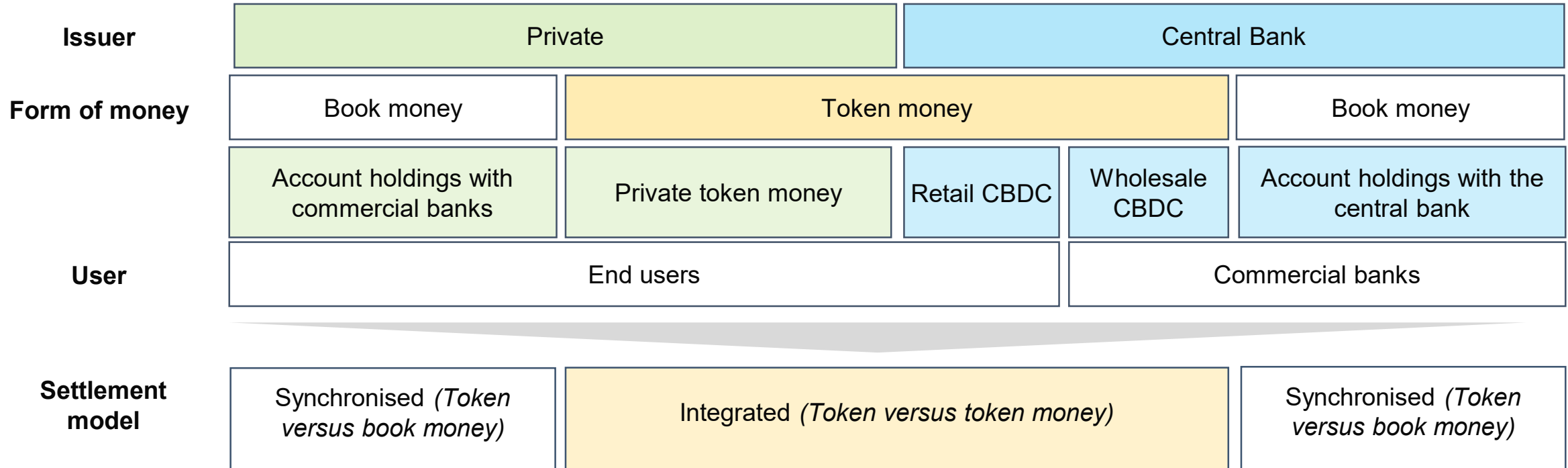
- The SNB does currently not see a clear use case for a retail CBDC, at least not in Switzerland, and the SNB does therefore not intend to issue a retail CBDC.
- Motivations usually mentioned do not apply for Switzerland.

Wholesale CBDC: Maybe.

- Since 2021, there is a regulated financial market infrastructure based on DLT in Switzerland (SIX Digital Exchange, SDX).
- Payments on systemically important financial market infrastructures should be settled with central bank money.
- There is thus a potential use case for wholesale CBDC, at least in Switzerland, and the SNB is undertaking several projects concerning wholesale CBDC.

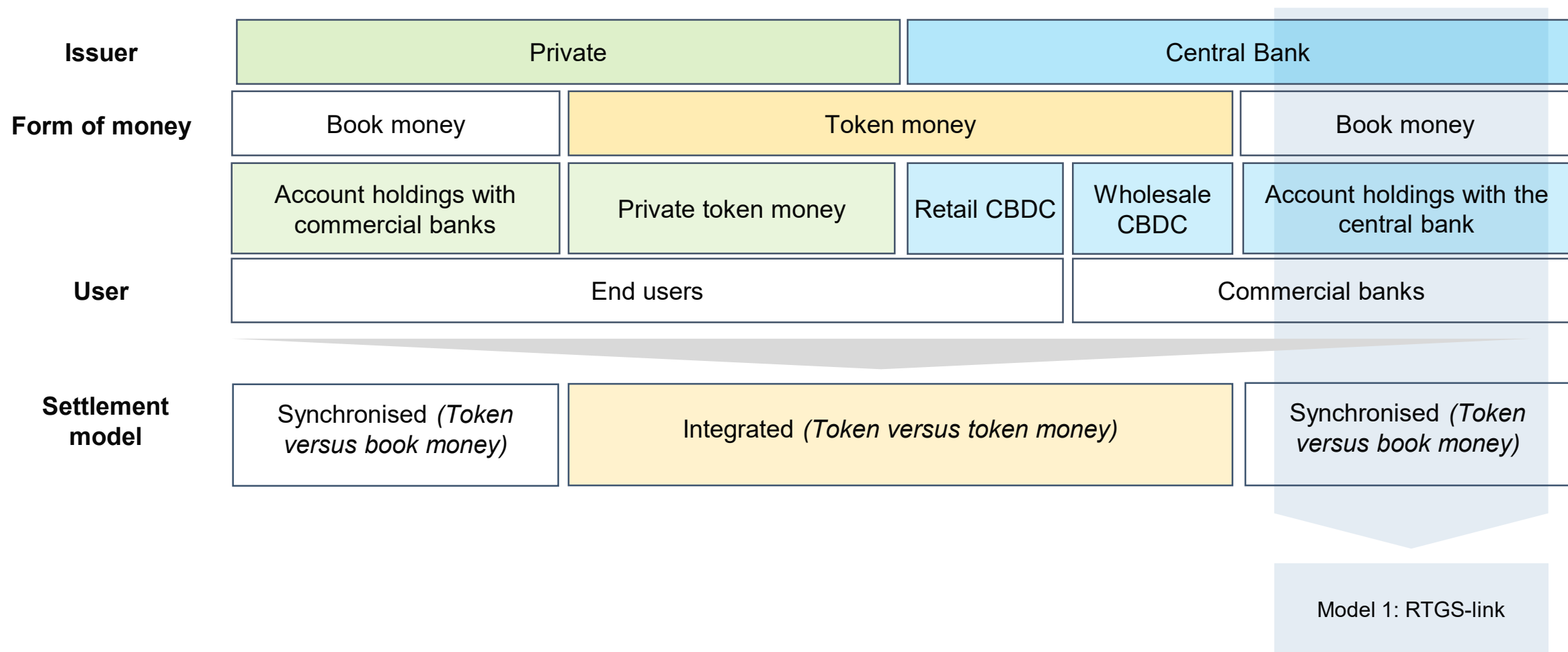
III. Different Models to settle tokenized assets in central bank money

Forms of money and settlement models for token transactions



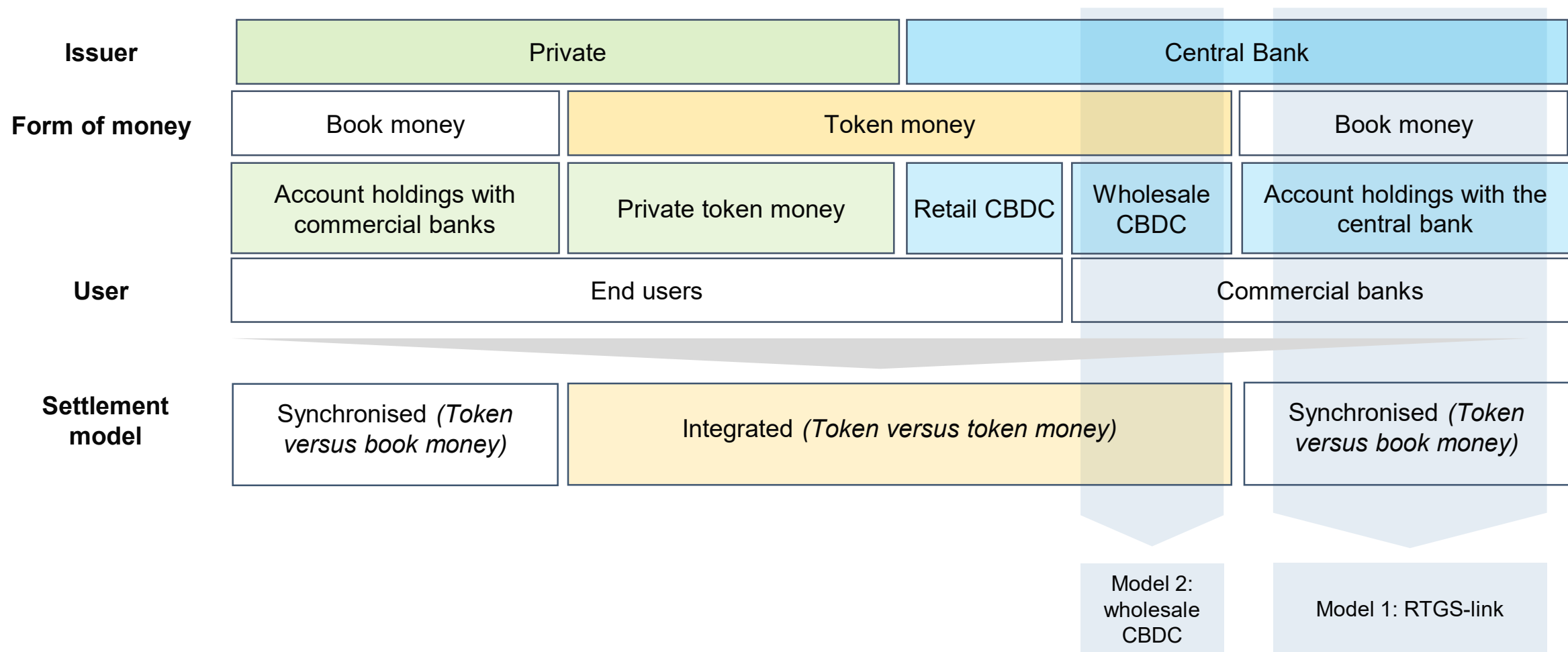
Source: Maechler and Moser. Swiss Payments Vision – an ecosystem for future-proof payments. Money Market Event, Zurich, 30 March 2023

Model 1: Linking Blockchain and traditional RTGS



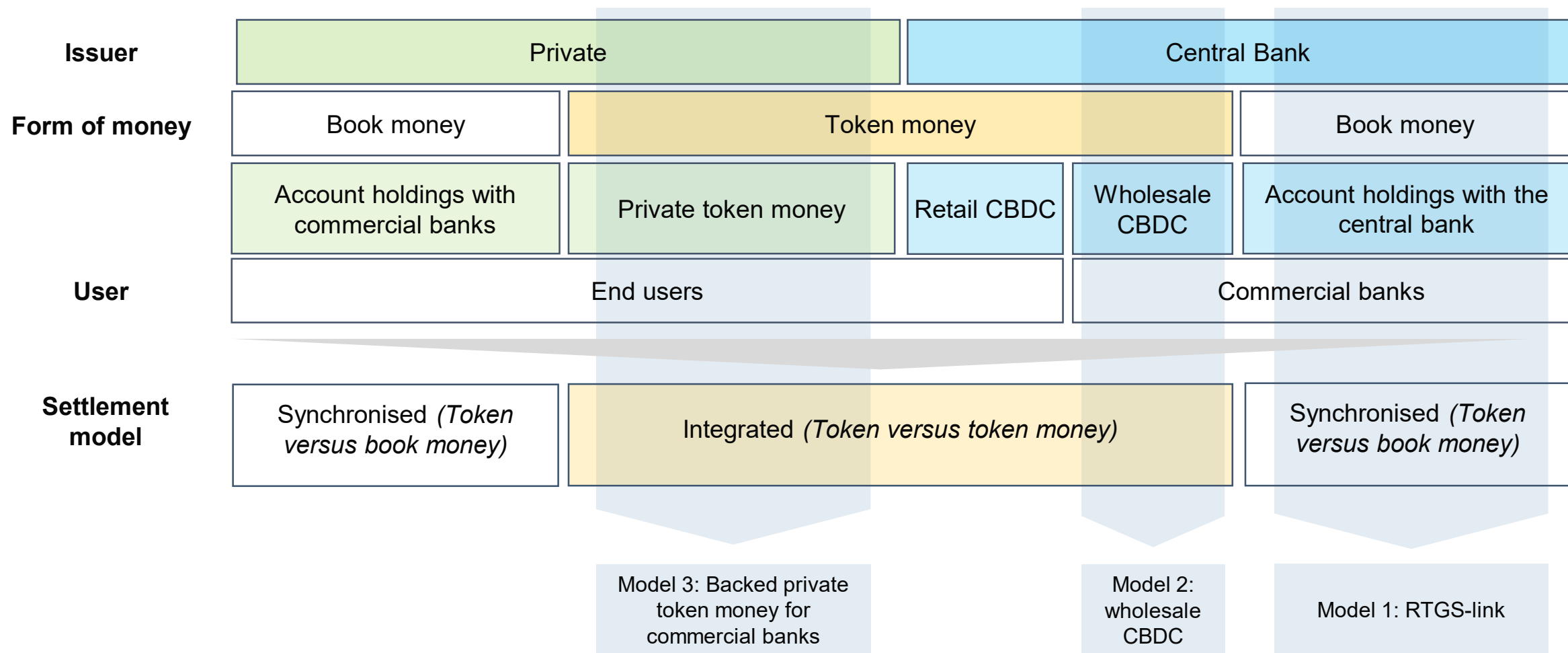
Source: Maechler and Moser. Swiss Payments Vision – an ecosystem for future-proof payments. Money Market Event, Zurich, 30 March 2023

Model 2: Issuing a Wholesale CBDC on the Blockchain



Source: Maechler and Moser. Swiss Payments Vision – an ecosystem for future-proof payments. Money Market Event, Zurich, 30 March 2023

Model 3: Backing Private Stablecoins with Central Bank Money



Source: Maechler and Moser. Swiss Payments Vision – an ecosystem for future-proof payments. Money Market Event, Zurich, 30 March 2023

IV. SNB Projects

Projects Helvetia & Jura

SNB Projects

Helvetia Phase I



Published
December 2020

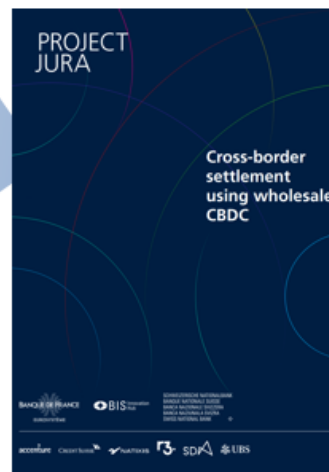


Helvetia Phase II:

- *Integration of wCBDC in back-office systems and processes and further legal analyses*

Commercial banks: Citi, Credit Suisse, Goldman Sachs, Hypothekarbank Lenzburg and UBS

Published on January 2022



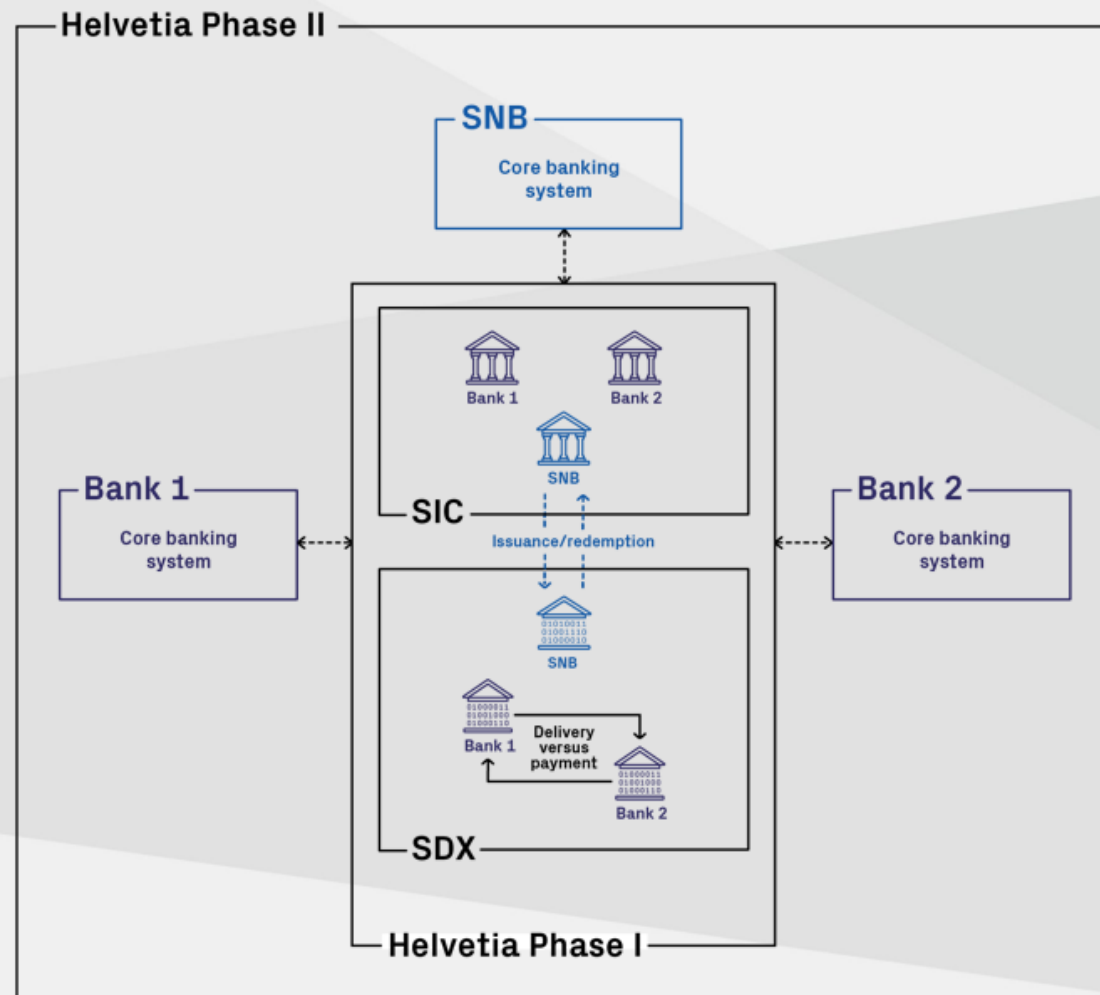
Jura: Cross-border settlement with wCBDC

Public sector participants: SNB, Banque de France, BIS Innovation Hub Switzerland Centre

Private sector consortium: Accenture, Credit Suisse, Natixis, R3, SDX & UBS

Published on December 2021

Helvetia II: Solution Design



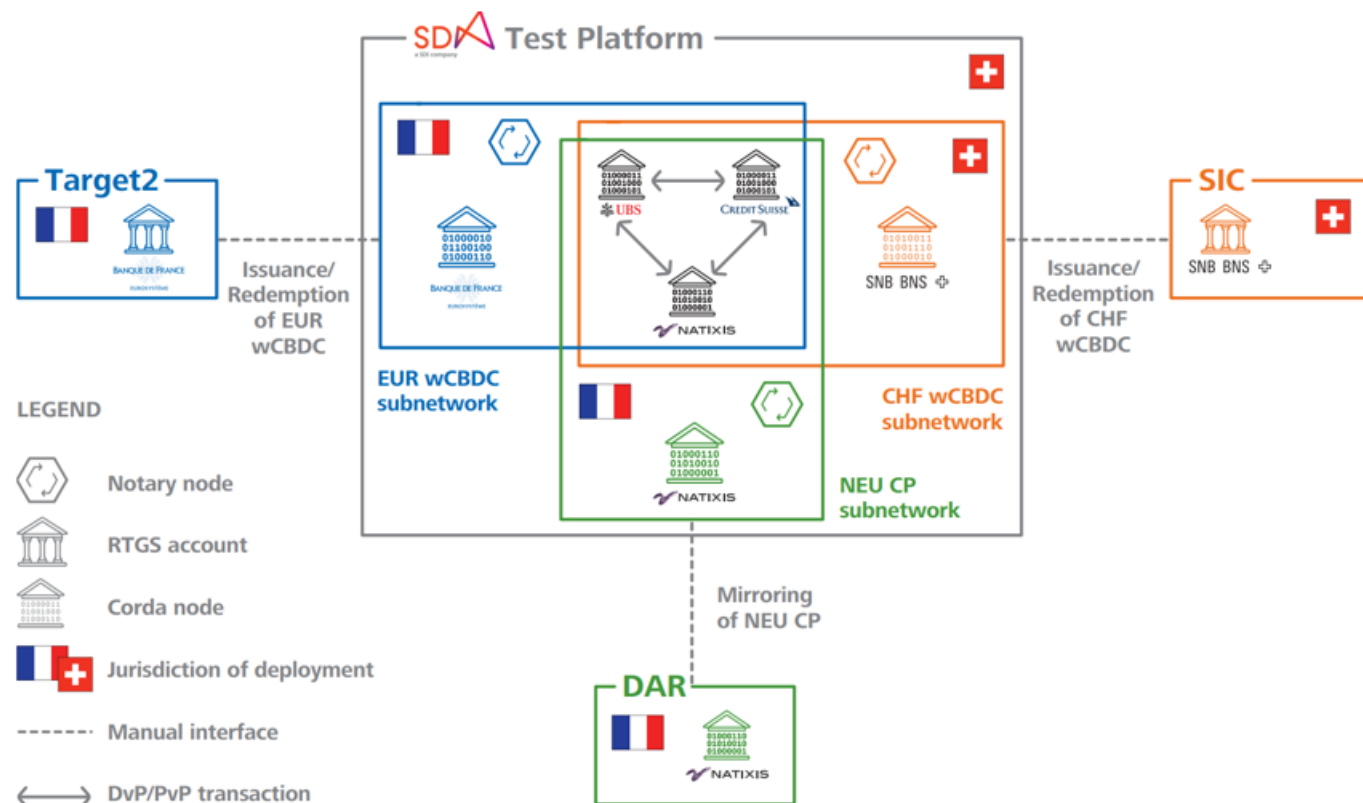
Phase I built on the test environments of...

- ...the Swiss real-time gross settlement system, the SIC system;
- ...SIX Digital Exchange (SDX), an infrastructure for the trading and settlement of tokenised assets.

Phase II expanded on Phase I by...

1. ...adding five commercial banks to the experiment;
2. ...integrating wCBDC into the core banking systems of the central bank and commercial banks;
3. ...testing the settlement of transactions from end to end;
4. ...identifying necessary control and monitoring capabilities for the central bank.

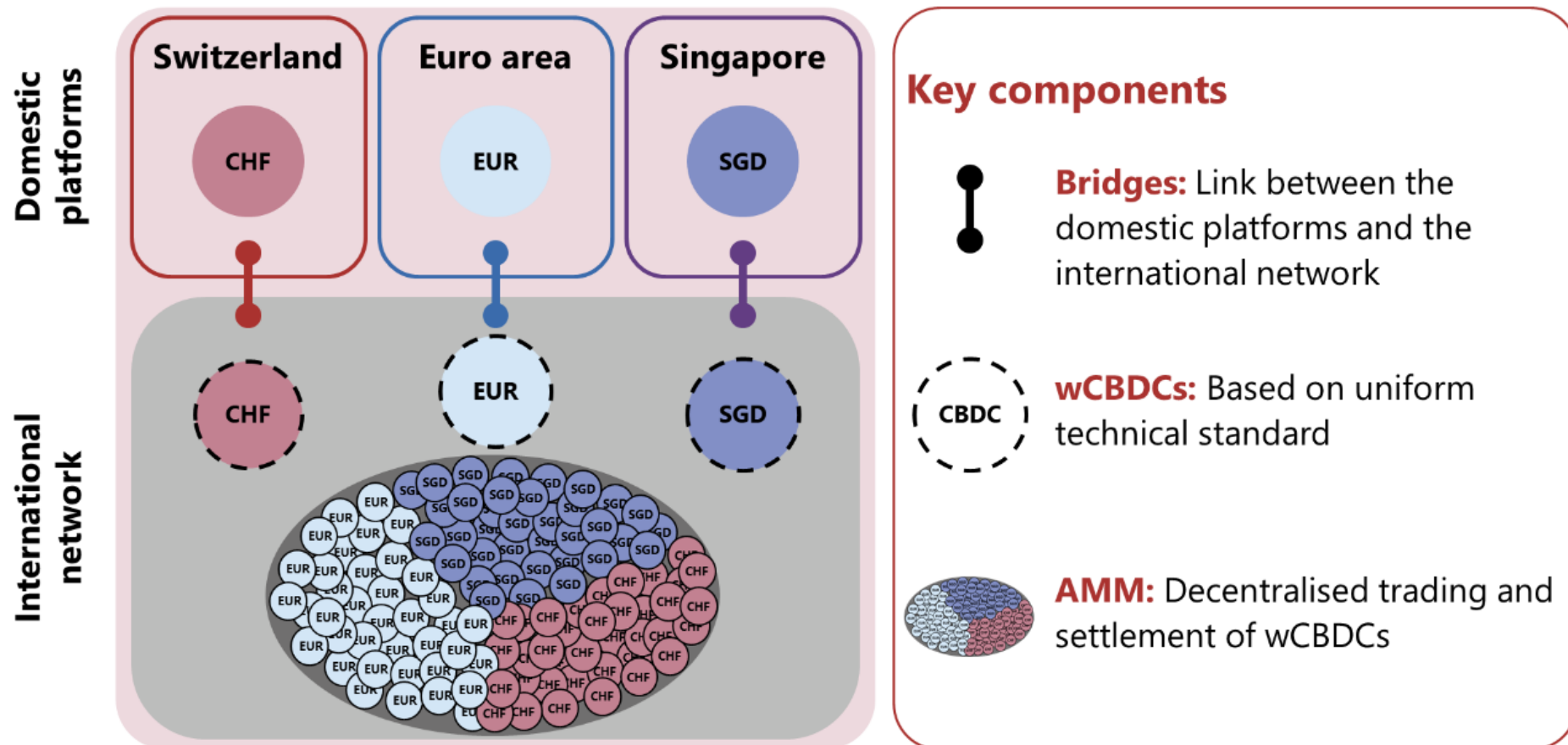
Project Jura: Cross-border Settlement with wCBDC



- Single multi-currency and multi-asset platform
- Direct access to intraday wCBDCs for resident and non-resident banks
- Central bank control and monitoring functionalities on subnetwork level
- Novel dual-notary signing functionality enables cross-subnetwork settlement
- Deployment of subnetworks in cloud-based data centres in different jurisdiction

Project Mariana

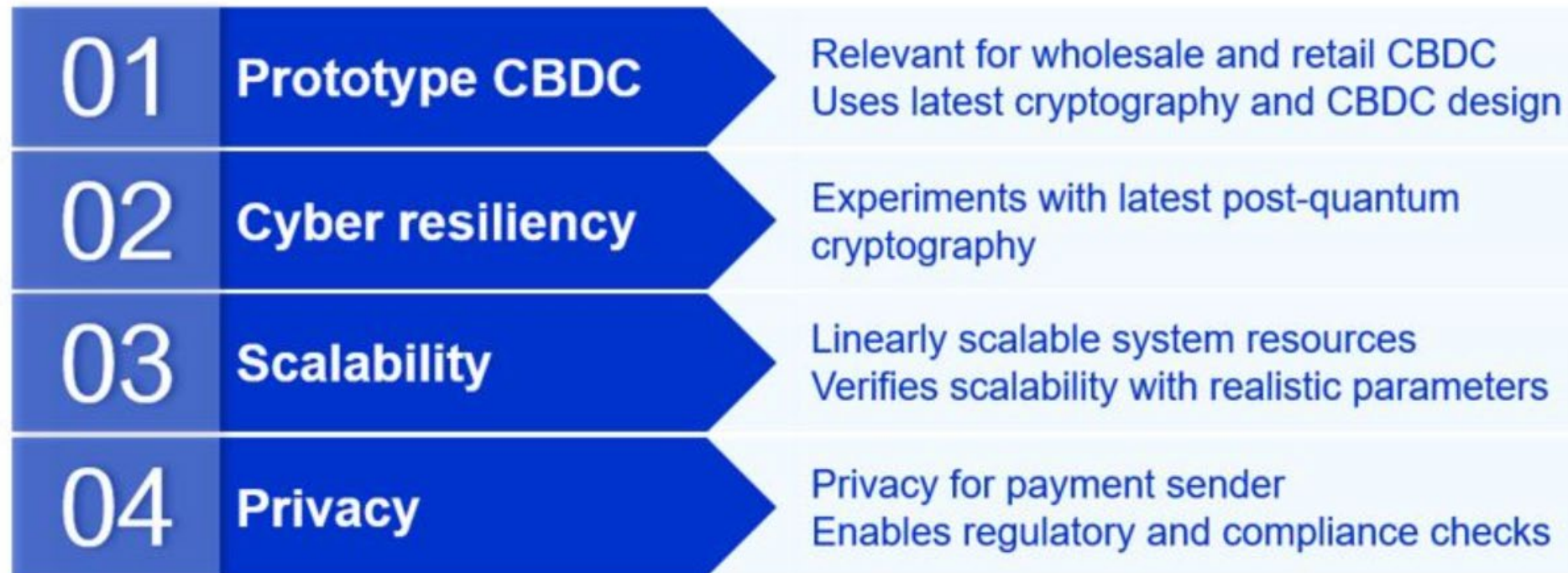
- Project Mariana investigates the use of automated market-makers (AMMs) for foreign exchange (FX) trading and settlement (wCBDC in Swiss franc, Euro, Singapore Dollar).
- Joint proof of concept between SNB, Banque de France, Monetary Authority of Singapore and BIS Innovation Hub. Report to be published mid-2023.



Project Tourbillon

Joint Project between SNB and BIS Innovation Hub Swiss Center.
Project Report and Source Code to be published Q4 2023.

What is Tourbillon?



Source: BIS Innovation Hub

Project Helvetia Phase III

Three Models for Token Settlement

The SNB will study the three models shown on slide 17 in greater depth:

- **Model 1: RTGS-Link.** Compared to integrated settlement, this model has the disadvantage that DLT functionalities are limited. We are therefore examining whether these disadvantages can be reduced by adapting the SIC system or the link.
- **Model 2: Wholesale CBDC.** We will issue real wholesale CBDC on SDX for a limited time and test selected transactions with market participants in a production environment.
- **Model 3: Private token money protected under bankruptcy law.** We investigate how private token money backed one-to-one by deposits at the SNB can be legally structured to have a comparable risk profile to central bank money in the event of bankruptcy of the token issuer.

Thank you for your attention!

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