

## Agenda item 3: Republic of Slovenia issuance of digital bond during the exploratory work

**Background:** On 25 July 2024, the Republic of Slovenia issued its inaugural digital bond. The transaction is the first such transaction of an EU sovereign, and one of the first sovereigns worldwide. Republic of Slovenia representatives will present the motivations and implications for a sovereign issuer to explore new technologies, as well as share some findings from the experience made.

NTW-Contact Group meeting  
25 September 2024

Republic of Slovenia  
Ministry of Finance  
Treasury Directorate  
Transactions and Liquidity Management Division



## **Digital bonds**

*Distributed ledger technology-based sovereign government debt securities*

*Presentation to the NTW-CG, European Central Bank*

Frankfurt am Main, September 2024



## Pointing the way in a changing DLT landscape.



### Experimental milestone

By Oliver Coplestone, first published in article ***Slovenia Sovereign digital bond expected to trigger DLT bond action***, Global Capital, August 2024, <https://www.globalcapital.com/article/2dkndnenkkodipxsez1fk/emerging-markets/em-people-and-markets/slovenias-sovereign-digital-bond-expected-to-trigger-dlt-bond-action>





## **Preliminary**

**THE HOW: Inaugural digital bond (issued on 25 July 2024)**

**THE WHY: Goals of central government debt management with regards to DLT**

**THE NEXT STEPS: Recommendations for the future work of NTW-CG**

**Q&A**



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## Starting points and future plans of the Treasury directorate



The Treasury Directorate is exploring the possibility of issuing treasury bills and/or government bonds using distributed ledger technology. We assess that the **technology, market infrastructure, service providers, regulatory framework** and the **entire ecosystem of the DLT industry** itself have advanced to a point where a pilot project for the issuance of tokenised securities is feasible.

DLT has a high potential in promoting **market efficiency, reducing friction** in trading, promoting the efficiency of **price discovery** mechanisms, **cost efficiency** for investors, and **accessibility** of securities to retail investors.

The recently adopted **DLT Pilot Regime Regulation** has created, at least at European level, the **legislative basis** for the implementation of DLT in the market infrastructure. The Republic of Slovenia has also recognised the importance of DLT technology in its **Capital Market Development Strategy 2023-2030** and has set the early implementation of the DLT pilot regime and the establishment of a DLT TSS market infrastructure as one of the objectives of the strategy.

The introduction of DLT in the issuance and trading of government debt securities is expected to be implemented in a **gradual and phased manner**. Each phase will involve minimal changes to the established way of issuing bills and bonds, and will be coordinated with relevant stakeholders.

The pilot projects is primarily aimed at **exploring** the use of DLT in the issuance of sovereign debt and subsequent trading, **rather than at active borrowing**, and therefore **minimal issuances** are foreseen.



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# THE HOW: Inaugural digital bond

## Overview and rationale



### Overview

- On 25 July 2024, the Republic of Slovenia has issued the inaugural digital bond. The landmark transaction is the first such transaction of an EU sovereign, and one of the first sovereigns worldwide.

Issuance: 25 July 2024

Maturity: 25 November 2024

Nominal size: EUR 30 mio

Coupon: 3.65% p.a.; one full quarterly and one partial quarterly coupon

Issued on private and permissioned CANTON blockchain, and administered by BNP via proprietary Neobonds platform.

Issued in the context of the ECB wholesale central bank money settlement experimentation program.

The settlement of the bond was performed on-chain with wholesale central bank digital currency through the Banque de France's (BdF) interoperable and tokenized cash solution (DL3S).

### Rationale

- The Republic of Slovenia is working to **introduce new technologies** in the **management of government debt** and in the **financial market in general**. DLT is an important part of **Capital Market Development Strategy 2023-2030**.
- Such issuances and experiments with tokenised central bank money represent an important step towards **greater transparency** and **efficiency** of **financial markets** through the wider use of such technology. Although the current uptake of such technology in financial markets is small relative to the value of issuance and/or trading, we expect the **importance of distributed ledger technology to increase significantly** in the coming years.
- Such transactions send **an important message** to the market about the **issuer's openness to new technologies** once they are widely adopted.





# THE HOW: Inaugural digital bond

## Details



### Details

- On 25 July 2024, the Republic of Slovenia issued a bond based on **Distributed Ledger Technology (DLT)**.
- **BNP Paribas** acted as the **sole manager** of the issue and as the **operator** of the Neobonds DLT platform.
- The technology on which the DLT bond of the Republic of Slovenia is issued is based on the private and permissioned **Canton blockchain**, and **Neobonds** (BNP Paribas' proprietary platform for the custody, settlement and maintenance of the register of securityholders).
- BNP Paribas acts as **registrar** (maintaining the register of securityholders on the Neobonds DLT platform on behalf of the issuer) and **paying agent** for this transaction.
- The DLT bond of the Republic of Slovenia **was not entered in the central register** of any Slovenian or foreign central securities depository and **will not be admitted to trading on a regulated market**. It is to be traded exclusively through over-the-counter (OTC) transactions.
- The DLT bond was issued under French law.
- The bonds were issued with a maturity of 4 months and a nominal amount of EUR 30 million.
- One full and one partial quarterly **coupon**.
- **Ratings:**
  - **FITCH: F1+** (same as usual Fitch Republic of Slovenia short-term rating)
  - **Moody's: P-2** (same as usual Moody's Republic of Slovenia short-term rating)
  - **S&P: A-1+** (same as usual S&P Republic of Slovenia short-term rating)

# THE HOW: Inaugural digital bond

## Cash leg



### ECB experiments on wholesale tokenised central bank money settlement

- The DLT bond of the Republic of Slovenia has been included in a **pilot project under the auspices of the European Central Bank** to study the use of **new technologies or tokenised central bank money for the settlement of securities' transactions**.
- The subscription, trading and repayment of the coupons and the principal of the bond of the Republic of Slovenia will be carried out using **tokenised central bank money developed by the French central bank**.
- The tokenised central bank money developed by the French Central Bank is based on the **Hyperledger** blockchain. The Hyperledger blockchain, like Canton, is private and permissioned, with transactions privacy and a restriction on the participation of unauthorised persons in the network.
- The cash leg is independent of the Neobonds platform. Trades are bilateral and take place outside the platform. The fact that the securities are issued on one blockchain and the tokenised cash on another does not negatively affect the settlement processes.
- Tokenised central bank money is intended for **wholesale settlement** and is issued and redeemed for conventional money by the national central bank of each individual market participant ('dealer'). In order to issue tokenised EUR, conventional EUR must be deposited in the Target System in the participant's escrow account with the national central bank. Intra-day settlement of transactions in tokenised central bank money is foreseen during the experiments. At the end of the trading day, the tokenised EUR shall be burnt for redemption and the conventional EUR in the Target system shall be released. Issuance and redemption takes place on a daily basis.
- The Republic of Slovenia shall receive or pay **conventional EUR**. BNP Paribas, as issuer's paying agent, will arrange for the conversion of any tokenised EUR into conventional EUR and vice versa.
- **Banque de France's** tokenized cash solution is the **only solution** in the ECB trial that is **completely on-chain** and **thus fully interoperable with the use of smart contracts** for trading and/or settlement **without T2 intermediation**. While it is true that such setup adds **another layer to complexity**, we believe it should be considered as **possible development for DLT platforms** for securities' trading



# THE HOW: Inaugural digital bond

## Neobonds and CANTON



### Neobonds

- **Neobonds** is BNP Paribas tokenisation platform on private blockchain supporting issuance, trade monitoring, management of the register of securityholders during the full lifecycle of securities.
- Neobonds platform brings a different approach to the established practices in custody, trading, settlement and corporate actions than those of conventional securities.
- **Bond issuance origination and pricing** is carried out in an established manner off the platform itself;
- Transaction **settlements are completed cross chain**, Neobonds connecting to Central Banks (i.e. DL3S from Banque de France platform for this transaction) through an interoperability model.
- BNP Paribas's Neobonds. acts as registrar on behalf of the issuer and BNP Paribas Securities Services as **paying agent** for this transaction. The Digital Bond is not registered in a Central Securities Depository.
- Transactions on Secondary Markets are negotiated OTC and submitted to Neobonds post market for transfer; settlement is managed on Neobonds with tokenised central bank money or alternatively with conventional money.

### CANTON & DAML

- Neobonds has been built using 'Digital Asset (DA)' technology DAML language to code smart contracts and CANTON as private permissioned blockchain and fully integrated within BNPParibas Global Markets infrastructure





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# THE WHY: Goals of central govt debt mngt with regards to DLT

## Goals of DLT issuances



### Inaugural digital bond – a learning opportunity and a signal to the market

- The Republic of Slovenia is working to **introduce new technologies** in the **management of government debt** and in the **financial market in general**. **DLT** is an important part of **Capital Market Development Strategy 2023-2030**.
- Such issuances and experiments with tokenised central bank money represent an important step towards **greater transparency** and **efficiency** of **financial markets** through the wider use of such technology. Although the current uptake of such technology in financial markets is small relative to the value of issuance and/or trading, we expect the **importance of distributed ledger technology to increase significantly** in the coming years.
- Such transactions send **an important message** to the market about the **issuer's openness to new technologies** once they are widely adopted.
- This „test“ transaction works as a **learning opportunity** for Treasury Directorate, but more importantly, it provides an important **signal** to the market that the Republic of Slovenia will be **ready for wider introduction of DLT when these technologies mature**.

### Future DLT issuances must have a meaningful impact on the cost of debt

- Any **future DLT issuances** must either **directly** or **indirectly decrease the cost of debt** for the issuer.
- Such an improvement must be **material and measurable**.

# THE WHY: Goals of central govt debt mngt with regards to DLT

## Decreasing the cost of debt



### Decreasing the cost of debt for the issuer via the use of DLT

#### DIRECT ways to decrease the cost of debt for the issuer

- Lower **direct cost** for the **issuer**: via **disintermediation** – cost of CSD

#### INDIRECT ways to decrease the cost of debt for the issuer

- Lower **direct cost** for the **investor**: via **disintermediation** – financial market intermediaries' fees and costs

*Assuming constant net return required from investors, lower fees mean lower required gross return from the issuer.*

- Significant **expansion of investor base**, including **retail**

*It must be convenient and cheap for investors to buy our debt. Significantly larger investor base increases demand for issuer's debt and thus decreases the cost thereof.*

- Increased **capital market efficiency**: via **faster settlement**

**Tied-up capital during settlement significantly decreases overall market efficiency.**  
With **automated settlement** via smart contracts, settlement cycle could be decreased significantly, potentially translating to **lower required return at issuance.**

- More **efficient price discovery**: via **admission to trading** on secondary market

Secondary marketplaces introduced in the DLT Pilot Regime **must take over a significant bulk of sovereign bond trading activity** in order to facilitate **more efficient price discovery** and thus **decrease the illiquidity discount.**





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# THE NEXT STEPS: Recommendations for the future of NTW-CG

## Kudos to the ECB



### The Republic of Slovenia as an issuer interested in DLT congratulates the ECB for the initiative.

- There are **numerous tokenisation models, blockchains, standards.**
- The **INDUSTRY STANDARD DISCOVERY** is a difficult and lengthy process. We see these experiments and trials as an important stepping stone to such discovery, as well as experimentation and acquaintance of issuers and market participants with said standards and technology.
- ECB trials give much weight to the technology itself, thus issuers and market participants can get comfortable with DLT.
- We will be following closely the outcomes of these trials.





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