

Rencontres digitales
10 mars 2022

Le projet de monnaie digitale chinoise (e-CNY)
Point d'avancement et perspectives

Le projet e-CNY : point d'avancement et perspectives

- ❑ Un projet lancé de longue date
- ❑ Définition, objectifs et principales caractéristiques
- ❑ Point d'avancement
- ❑ Perspectives et interrogations

Petit point de méthode: la question des sources

- ❑ Beaucoup de publications
- ❑ Mais peu de sources « de première main »

Progress of Research & Development of E-CNY in China

**Working Group on E-CNY Research and Development of the
People's Bank of China
July, 2021**



Un projet lancé de longue date



Mark Ralston/AFP/Getty Images

2014

RESEARCH BEGINS

The People's Bank of China establishes a team to research a potential central bank digital currency.



Mark Ralston/AFP/Getty Images

2017

RESEARCH INSTITUTE ESTABLISHED

The People's Bank of China establishes a new Digital Currency Research Institute.



IMF Photo/Cliff Owen

MAY 26, 2019

DCEP DESIGN MAKES PROGRESS

Yi Gang, Governor of the People's Bank of China Governor, states that "top-level design" of DCEP had already been completed.



Aleksandra Sova/Adobe Stock Images

APRIL 2020

DCEP PILOT LAUNCHES

China begins piloting DCEP in four cities: Chendgu, Shenzhen, Suzhou, and Xiong'an.



Philippe Vandewauwer/Flickr

APRIL 22, 2020

FOREIGN FIRMS TO TEST DCEP

Foreign firms including McDonalds, Starbucks, and Subway are listed among several companies that will be included in tests of DCEP.



FEBRUARY 4, 2022 – FEBRUARY 20, 2022

BEIJING OLYMPICS 2022

China will showcase the digital renminbi during the 2022 Winter Olympics in Beijing.

Définition



“The e-CNY is the digital version of fiat currency issued by the PBOC and operated by authorized operators. It is a value-based, quasi-account-based and account-based hybrid payment instrument, with legal tender status and loosely coupled account linkage. It is the central bank’s liabilities to the public”

(PBoC e-CNY white paper, July 2021)

Principaux objectifs (*main drivers*)

- ☐ Safeguard **monetary sovereignty**
- ☐ Provide a **backup** for the retail payment system
- ☐ Improve the **efficiency** of the central bank payment system
- ☐ Enhance financial **inclusion**

Principales caractéristiques (*main features*)

❑ Features of physical money

- legal tender
- settlement upon payment
- no interest paid
- no fees charged

❑ Both account-based and value-based (token-based)

❑ A two-tier system

- tier 1: the PBoC
- tier 2: authorised operators (banks, PSPs, telecom operators)

❑ Managed anonymity

- anonymity for small value and tracing for high value
- Based on a classification of wallets by KYC level

Focus : the « dual off-line » function

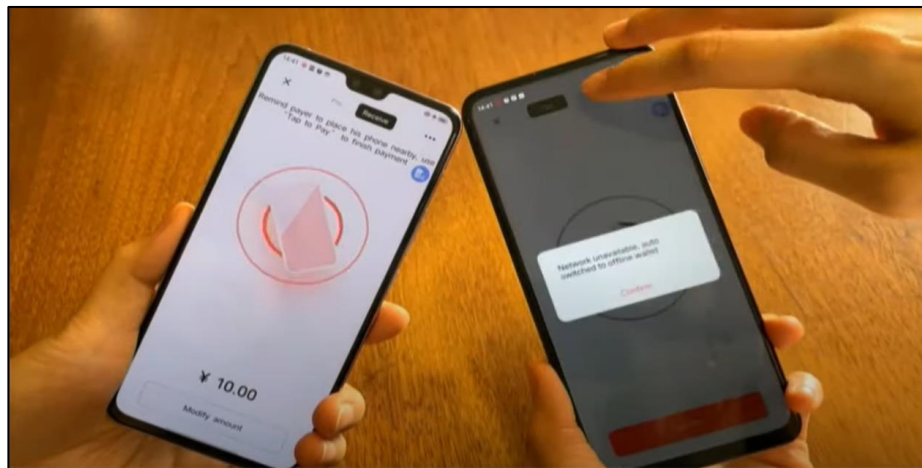
We can still make e-CNY transactions when both payer and receiver are off-line, which we call “**dual off-line payment**”.

Disconnect the wi-fi on both phones and turn on the airplane mode to simulate a no network state. For the recipient phone, click tap button. Now, click “receive” button, set the receive amount. On the payer phone, press “confirm” and verify the fingerprint. Then, move the recipient phone closer to the payer phone. The off-line e-CNY payment is done.

For the dual off-line function, we use **mobile phones**, but we can also use **hardware wallets**.

These are two e-CNY ink display cards with off-line function. Set the receive amount on this recipient card, stick the two card wallets together. The offline e-CNY payment is done.

(Mu Changchun, February 2022)



Point d'avancement (1/2)

- ❑ Expériences pilotes lancées fin 2019 dans 4 villes puis progressivement étendues à 11 villes



❑ Chiffres (Octobre 2021)

- 132 millions de wallets pour un encours total de CNY 470 M
- acceptés par 1,32 million de commerçants
- 142 millions de transactions pour une valeur de CNY 56 Mds

Point d'avancement (2/2)

- ❑ Début janvier 2022, dans la perspective des JO de Pékin, le digital yuan a fait son entrée dans le App stores

China digital currency: e-CNY wallet lands in app stores ahead of Winter Olympics 2022

- Users with a digital yuan wallet can register to use the app in select cities, such as Shanghai and Xian
- Beijing has said that foreign visitors would be able to use the digital yuan at Winter Olympics venues this February



China's digital yuan wallet arrives in Android and Apple app stores

- ❑ Les chiffres d'utilisation du yuan digital lors des JO (dont Visa était sponsor...) ne sont pas encore disponibles, mais
 - le montant des transactions serait estimé à ~300 000 USD/jour
 - Au sein de la « bulle » des JO, les utilisateurs chinois auraient privilégié les *software wallets* et les utilisateurs étrangers les *hardware wallets* (cartes)

Perspectives : à quand le lancement?

- ❑ Bien que des tests à grande échelle aient été conduits avec succès depuis plus de deux ans, la PBoC reste très prudente

“Going forward, we will continue to prudently advance R&D of e-CNY, improve its design and use. Efforts will be made to establish a management model with reference to cash and bank accounts, enhance efficiency, privacy protection and anti-counterfeiting features, increase interoperability with existing payment tools, and improve the e-CNY ecosystem” (Yi Gang, PBoC Governor)

Although we already have a large number of population to draw on trials, it is a small percentage of users comparing with the traditional electronic payment instruments. We will still advance the e-CNY pilot with no preset timetable for the final launch. We will still further test the functions such as programmability and the robustness of the dual off-line functions.

If we are confident in terms of network security, robustness, scalability and capacity of this system, and the efficiency of the business model, maybe in the future we could formally launch the e-CNY for the whole country.

(Mu Changchun, Head of the PBoC’s Digital Currency Institute, 14 Feb 2022)

Interrogations

☐ DLT

☐ ANONYMITY

☐ CROSS-BORDER USE

DLT

The e-CNY system combines centralized architecture with distributed architecture, forming a hybrid technical framework featuring the co-existence of dual states, namely, steady state and agile state, as well as the integrated development of centralized and distributed architectures.

(PBoC e-CNY white paper, July 2021)

The PBOC has tested DLT during its pilots and decided that its capacity to process transactions and store data does not meet its requirements. It is particularly concerned about e-CNY's ability to handle days with very high levels of transactions. However, the PBOC has committed to a "hybrid architecture." DLT is being used in the e-CNY system, but only in limited areas where it is deemed to have an advantage over other technologies. Intermediaries can base their activities on any technology, including DLT, and still function in the e-CNY ecosystem. This openness to different technologies is part of what the PBOC calls a "Long Term Evolution System," through which new features of technology can continue to be added to the e-CNY even though its core is a centralized ledger. **(IMF "Behind the scene of CBDC" February 2022)**

The e-CNY is "smart money" and also has programmability capabilities. It could be realised by deploying smart contracts without impeding its legal tender functions under the primacy of security and compliance. The features enable self-executing payment according to pre-defined conditions on terms agreed between two parties so as to facilitate the business model and innovation. **(Mu Changchun)**

Anonymity

We have to strike a balance between protecting privacy and combating illegal transactions. We came up with the concept of “managed anonymity”: anonymity for small value and traceability for high value.

Chinese banks and PSPs are required to collect and process an array of personal data on individuals before the on-boarding process. But the so-called “fourth category wallets” can be opened with a phone number (which can be either a domestic or a foreign phone number). So, these wallets are anonymous, even to the PBOC, under the current legal system.

The fourth category wallets (“anonymous”)

Requirements: cell phone number

Verification: in-app

Account limit: 10,000 RMB (~1500 USD)

Single transaction limit: 2,000 RMB (~300 USD)

Of course, one could ask a question: if you know the mobile number, you know the real ID of the person. However, with the personal information protection law that was introduced recently, telecom companies cannot provide any ID information to the “authorized operators” or the central bank, so that the anonymous wallets will remain anonymous. In case a given transaction is illicit, the law enforcement agency could retrieve data, with legal warrants from the telecom companies.

(Mu Changchun, Head of the PBoC’s Digital Currency Institute)

Cross-border use

*Although we actually focus on the domestic use of e-CNY, we are also working to explore the possibility of **cross-border use** of e-CNY. However, to avoid any potential negative impact on the current financial system or international monetary system, we introduced **three principles**: **no disruption**; **compliance**; **interoperability**.* /

*Under the guidance of the BIS Innovation Hub, **we also cooperate with other central banks on the m-CBDC bridge project** to explore the capabilities of DLT and study the application of CBDC enhancing financial infrastructure to support multiple currency cross-border payments.*

(Mu Changchun, Head of the PBoC's Digital Currency Institute, February 2022)

*The PBOC is willing to **participate actively in international exchanges** of views on digital fiat currency and **discuss standards setting** in an open and inclusive manner, in order to jointly advance the development of the international monetary system. **(PBoC e-CNY white paper, July 2021)***

Le projet e-CNY de monnaie digitale chinoise

Merci de votre attention