ธนาคารแห่งประเทศไทย
BANK OF THAILAND

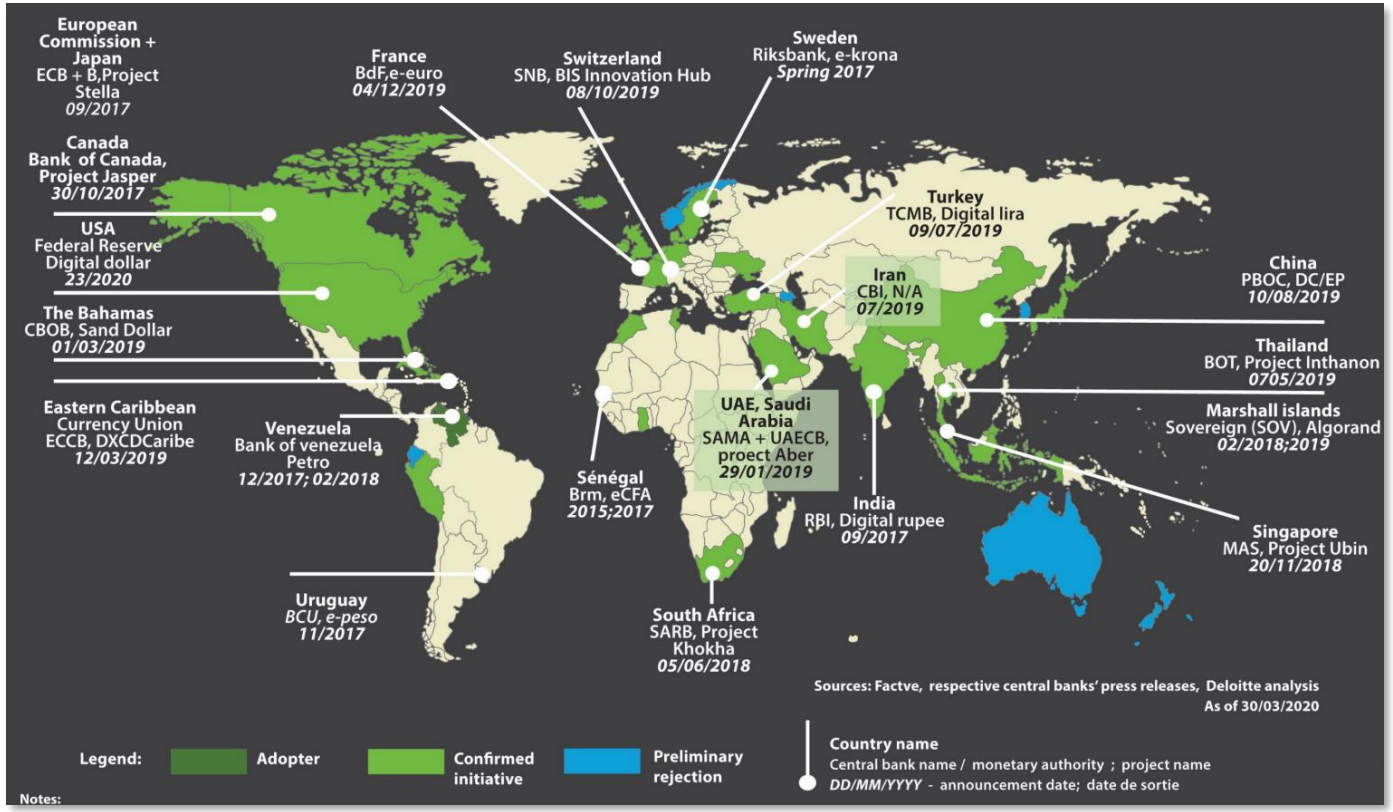
The journey of CBDC and Project Inthanon

10 September 2010

1. The beginning of CBDC's exploration
2. Project Inthanon
   - Motivation
   - What we have done
   - Findings
3. Environmental scan and What's next

1 Global development in CBDC

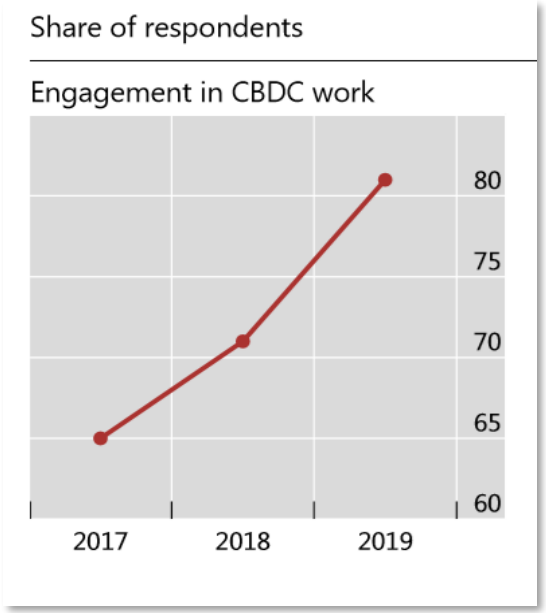
Global CBDC initiatives



Source: respective centeal banks' press releases & Deloitte analysis

wholesale vs. retail CBDC

BIS Survey in Late 2019:



From 66 central banks survey, more than 80% are working on central bank digital currencies

2 Project Inthanon (2018-2019)

Distributed Ledger Technology has the potential to enhance efficiency and reduce cost while maintaining trust.

To create an environment for the Thai financial services industry to **collaborate** and gain a better understanding of DLT through **hands-on experiences**

- **To understand and preparation** along with the keys stakeholders toward the transformation (e.g. roles & responsibilities)
- **To explore the capabilities of DLT** by developing a proof-of-concept
- To evaluate both **functionality and non-functionality** aspects of a decentralised payment system

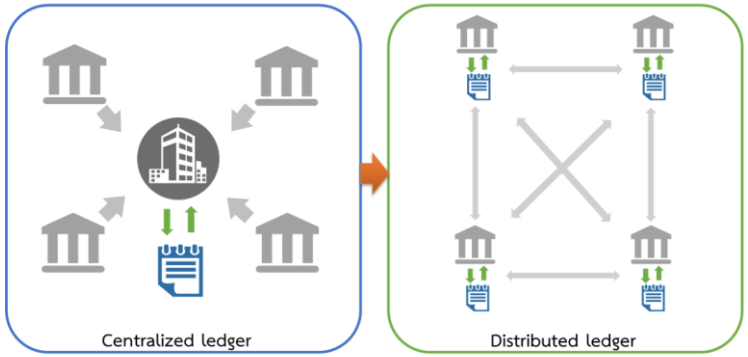
3 Phases of development

Phase 1

(Aug 2018)

1 Explore DLT-based RTGS

- A prototype of decentralized RTGS
- Key functionalities
  - Cash/Bond tokenization
  - Bilateral Transfers
  - Queuing Mechanisms
  - Gridlock Resolution
  - Automated Liquidity Provision

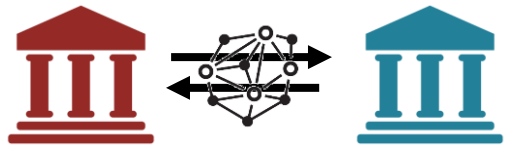


Phase 2

(Jan 2019)

2 Enhance DLT functionalities

- Fraud prevention for 3rd party funds transfer
- Compliance for non-resident regulation
- Bond life-cycle (Interbank bond trading and Repo)



P2P data reconciliation

Repo/Trade activities

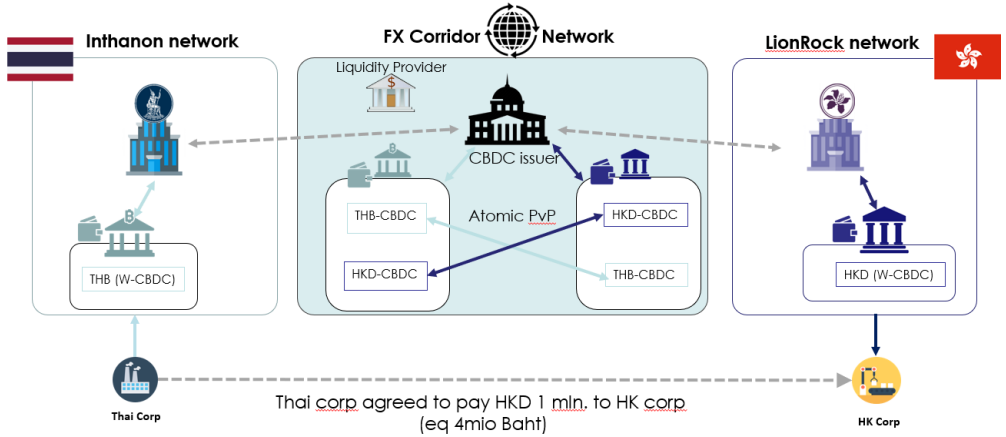
Bond-life cycle

Phase 3

(Sep 2019)

3 Extend network

- Cross-border fund transfer by reducing intermediaries

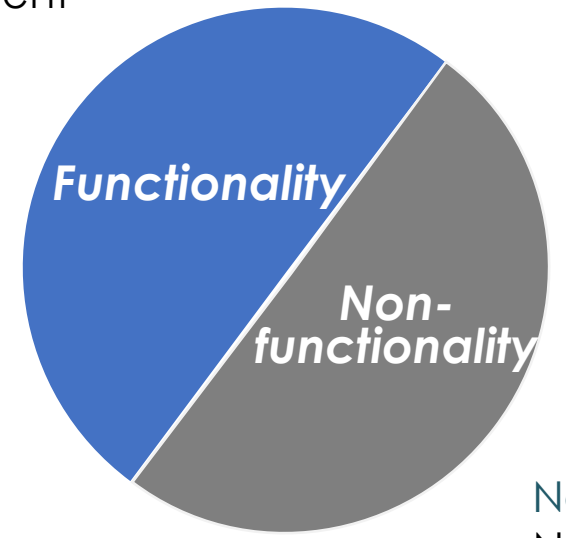


Findings

Payment
DLT can perform key features of existing RTGS and enables complex functionalities in payment

Asset life-cycle
Smart contract can handle bond-life cycle with complicated business activities

Operation
- Potential to operate 24/7
- DLT can provide atomic DvP settlement



Transaction Privacy
Bank and customer's data are protected by privacy design

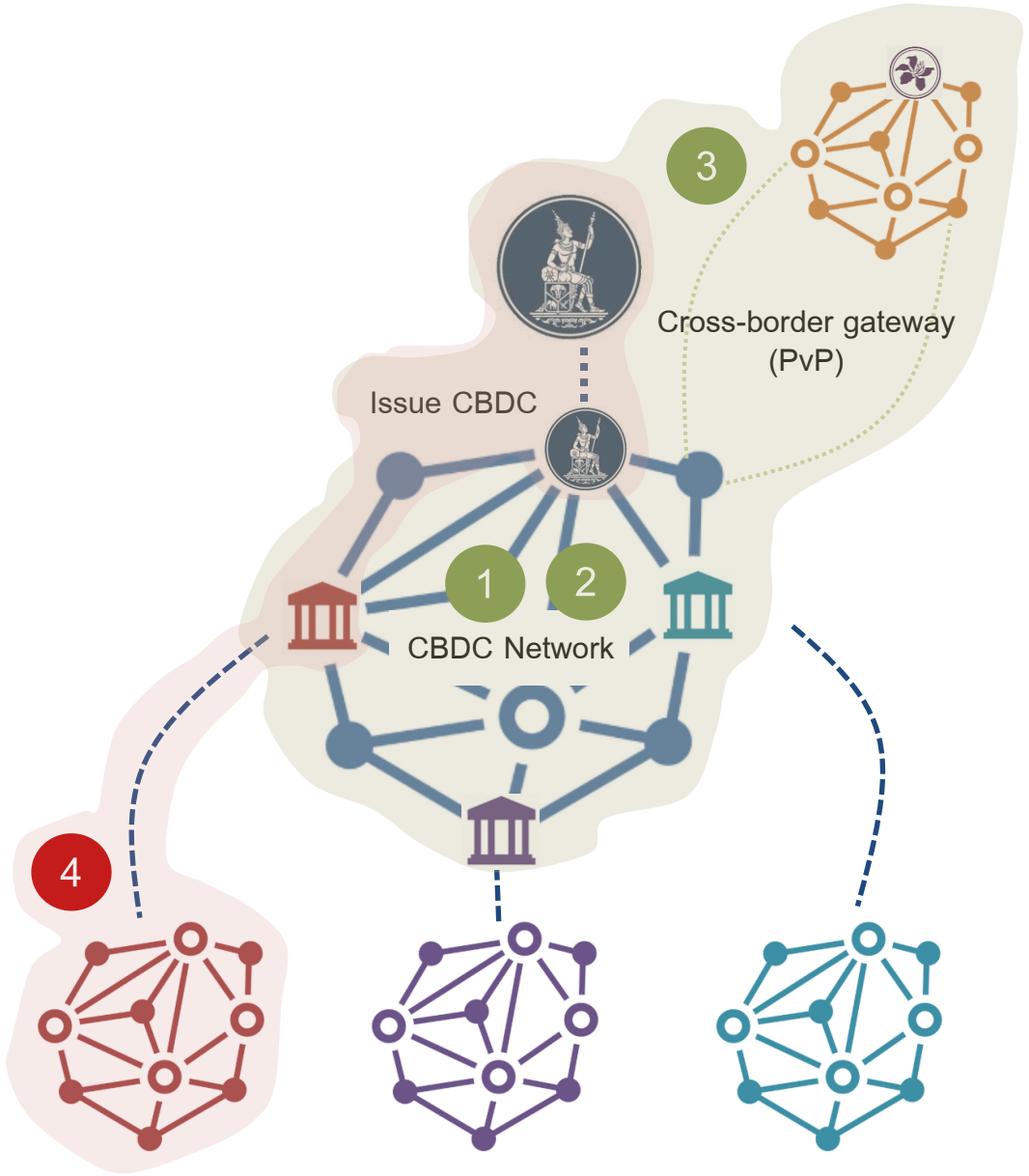
Settlement Finality
Notary provides technically deterministic finality

Network Resiliency
Notary is a single point of failure

Next challenges

- Non-functionality (performance & system security)
- Operational consideration
- Legal & regulatory consideration

What's next



Wholesale level

Project Inthanon: Phase 1 2 3

Corporate/Retail level 4

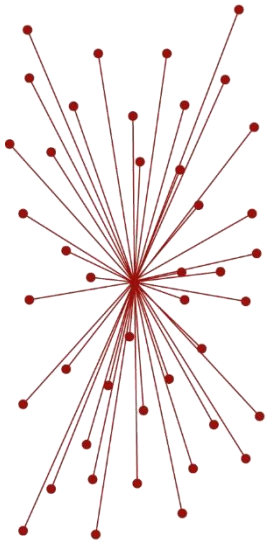
ข่าว ธปท. ฉบับที่ 30/2563
เรื่อง ธปท. ขยายโครงการพัฒนาระบบต้นแบบการชำระเงินโดยใช้สกุลเงินดิจิทัล
ที่ออกโดยธนาคารกลางไปสู่ภาคธุรกิจเอกชนเป็นครั้งแรก

- ศึกษาประโยชน์และความเป็นไปได้ในการเชื่อมต่อ CBDC กับนวัตกรรมที่พัฒนาโดยภาคเอกชน
- ศึกษาการออกแบบทางเทคนิคและแนวนโยบายที่เหมาะสม
- ประเมินผลกระทบต่อเสถียรภาพระบบการเงิน

Trade-off?

Centralized Network

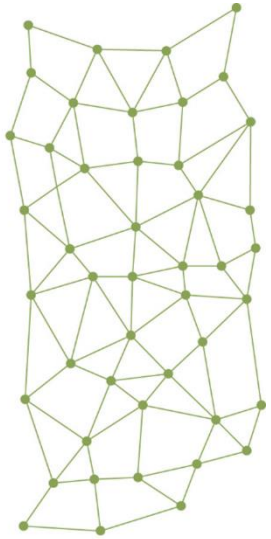
Distributed Network



Where are we in this spectrum for "CBDC" ?

Centralized payment

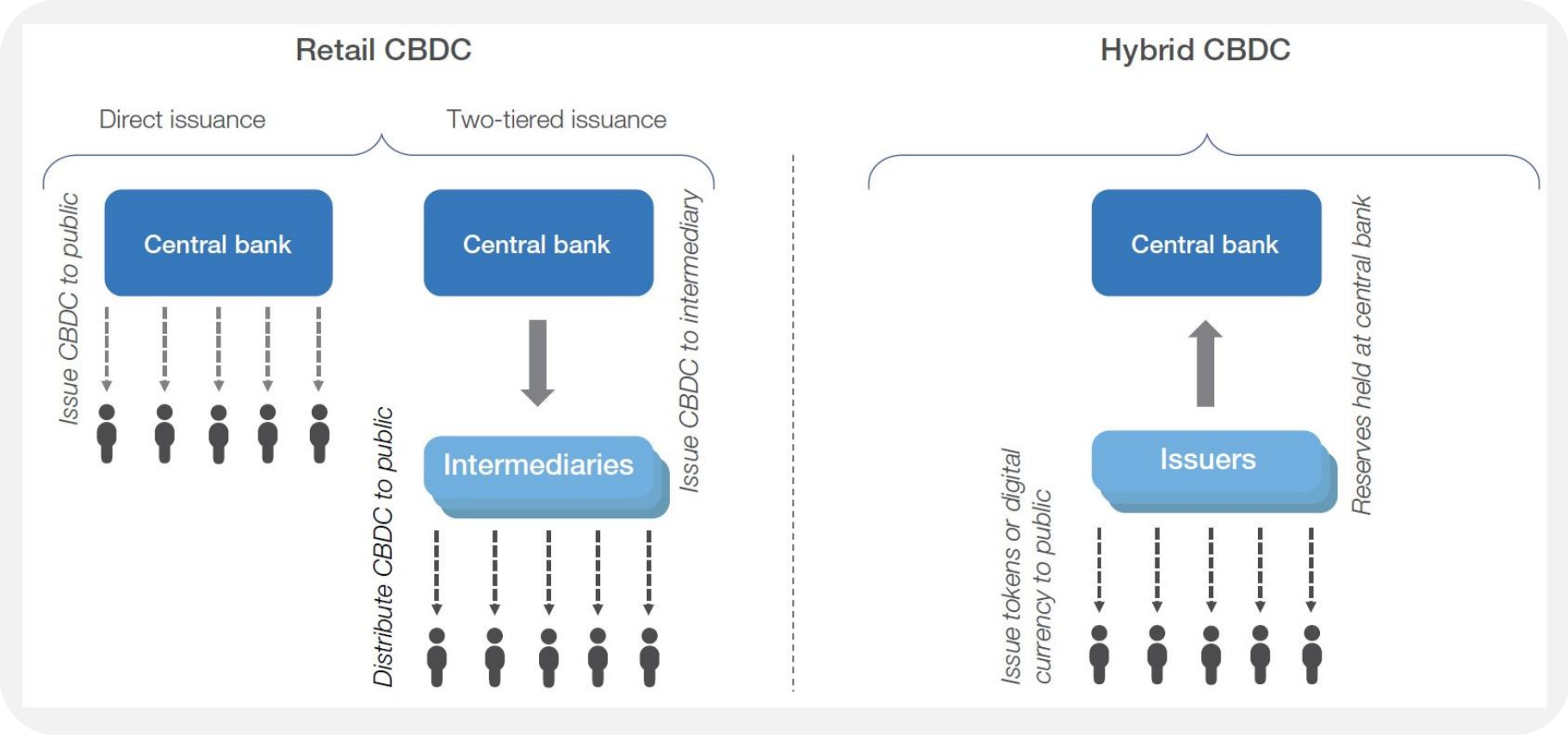
Decentralized payment



Trust is made by one person

Trust is provided by network

Design



Decentralised	Retail CBDC	One-tiered	Account-based	Interest bearing	Limiting the amount of CBDC
Centralised	Hybrid CBDC	Two-tiered	Token-based	Non-interest bearing	No limiting the amount of CBDC