This presentation will highlight how Thailand's National Digital Identity (NDID) model works and why the project can attract volunteers from government and private sectors. It is also important to discuss some of the key challenging problems, being faced with its implementation. Looking to the future it is clear the project has not reached its end, and there are more challenges to come.
NDID Background
BACKGROUND BEFORE BECOMING NDID COMPANY

Digital Economy Committee

Doing Business Portal Committee

Business

Regulator

Government

Track 1: Technical Team
White Paper: Digital ID Platform Spec Requirement

Track 2: Legal Team
Digital ID Act

Track 3: Pilot Team
9 Banks use e-Open Account as use case for testing
- Waiting for Grand Opening in July 2019

National Digital ID co., Ltd.
Timeline

2017

OCT, 2017

NOV, 2019
The 1st Pilot case, Opening a new bank account in fully online non-face-to-face channel, marking the first real use case to graduate from BOT regulatory sandbox.

2 Years

Dec, 2018
"Go Live!" The NDID Platform became available for pilot members to test the real-world use cases.

FEB, 2019
The Parliament passed the 4th Amendment to the Electronic Transaction Act to sanctify NDID platform creating trusted legal foundation for members in the NDID ecosystem.

JUL, 2019
NDID and all supporting organizations including the regulators launched the grand opening of NDID at Bangkok FinTech Fair 2019 at the Bank of Thailand.
More than 60 companies from 5 key industries become both shareholders and users at the same time.

**Shareholders by Industry**

- Money Market: 51.00%
- Capital Market: 21.00%
- Logistic Market: 14.00%
- eMoney: 7.00%
- Insurance: 7.00%

**Shareholders by public/private**

- Private Sector: 64.00%
- Public Sector: 36.00%
Country Pain Points
Dreaming

Any Transactions
- Loan
- Insurance applying
- VISA requesting
- Opening account
- E-Commerce
- Dating app
- Fund account opening
- Hospital Transfer

Can be done no matter...
- What you are doing
- Where you are
- Whenever

Reality

Almost every transaction
- Require copies of paper document (although we have smart card citizen ID for years)
- Need to go to the office (face to face)

Risk & Inefficiency is everywhere
- High Fraud
- Lost of document
- Low data privacy
- High paper usage
Infrastructure Design Concept: Complexity – IT, Agreements, Payment & Settlement
NDD Platform: Simple, Main Highway connecting members

- RP, IdPs, As
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NDID Model
NDID platform is Distributed Ledger (Blockchain - BC).

NDID platform is a platform to connect members to send/receive requests of authentication and information. Data in Blockchain is Timestamp Log e.g. time, date, receiver id, sender id, etc. No Sensitive data at all, as shown in the picture #2, #3, and #5.

Sensitive information only sends between two parities concerns outside the platform in #6. Therefore, NDID is data privacy and security by design.
RP can rely on multiple IDP’s for identity verification and multi sources of information providers (AS’s).

RP can request and combine many IdPs and multiple AS’s to strengthen the assurance of the identification verification.
Level of Assurance

IdP – Onboard Digital ID

1. Identify Proofing IAL 2.3
   - Dip Chip
   - Status Checking Dopa Online
   - FR

2. Authenticator (AAL)
   - Sth You Have+
   - Sth You Know+
   - Sth You Are

Standard Reference

https://standard.etda.or.th/?p=10132
Main Objectives of National Digital ID

1. To building standard of identity proofing and identity authentication for better online secured transaction
2. To provide e-KYC for digital services
3. To build data sharing ecosystem by connecting among members (no data stored on a centralized system and to share information owners must give consent)

As a result:
- Financial transactions required KYC can be done 100% Online
- Such as Bank Account Opening, Securities Account Opening any time anywhere soon
- Transactions required eConsent, eSignature can be executed 100% Online e.g. NCB, Lending Agreement with Signature – Accelerating True Digital Economy

- ETDA issues Identity Guidelines based on NIST framework
- Regulator: LOA Announcement for eOpening Account Use Case
  - BOT: IAL 2.3/AAL2.2
  - SEC: IAL 2.1+/ AAL2.1

- The only platform to have 100% eConsent matching with owner’s approval
- Complying Personal Privacy Data Act (GDPR)
Benefit from NDID Platform

- Copy of paper documents is reduced substantially
- Less paper usage and maintenance cost
- Trusted Source of Information Sharing
- Online transactions more secure and effectively
- Resources are used wisely and more sustainable
- Less IT investment Duplication
- Shared Infrastructure

Private and confidential only for NDID clients. Distribution or Reprint is not allowed.
**NDID Roadmap**

**Phase: 1 Individual**

**BOT Regulatory Sandbox**

- **6 Feb 2020**
  - New Bank Account Opening

- **Q3 2020**
  - Securities
  - Asset Management
  - Insurance
  - Personal Loan

**Phase: 2 Juristic**

**Ongoing**

- **May 2020**
  - Kick off Meeting – Juristic Development Committee appointed by Government

- **June 2020**
  - NDID Platform connects to DBD System (Government Portal for Juristic)

**Phase: 3 Foreigner**

**Future Plan**
Regulations & Compliance

- Identity Proofing and Authentication – Electronic Transaction Laws (4th)
  - The Bank of Thailand - KYC
  - Securities and Exchange Commissions - KYC
  - Anti Money Laundering Office - KYC

- The Bank of Thailand - KYC
  - ประกาศหลักเกณฑ์การรับผิดชอบ (Know your customer)
  - ประกาศแนบท้ายบัตรและหลักเกณฑ์ที่เกี่ยวกับการชำระเงิน

- Electronic Transactions Development Agency – 3 Identity Guidelines
  - Electronic Transactions Development Agency – Digital Signature Guidelines
Sample Use Cases
Case 1: Open Account

Step 1: Open account with Bank ABC
- Download eOpen Application
- Fill in - Private Data
- Click “Register”

Step 2: Accept Terms and Conditions
- ABC Products Terms
- NDID Terms
- Consent Conditions

Step 3: Request for eOpen Account With ABC Bank
- Click ‘Next’

Step 4: Choose your Bank IdP
- User selects its preferred IdP and then RP requests authentication as per agreed Level of Assurance (LoA) as per Industry standard

Step 5: RP (Bank ABC) sends request to Bank IdP thru NDID Platform and write time stamp (log) on the blockchain.
In IdP’s Application

**Case 1: Open Account**

**Step 6**
- SCB sends an alert to its mobile banking
- Click on 'Verification icon'

**Step 7**
- Identity Verification from Bank ABC
- Request Summary Information is displayed from Bank ABC

**Step 8**
- Ref code: xxxxxxx
- NDID Ref Code: xxxxxxx
- Click on 'Start'

**Step 9**
- Check your terms and conditions that Bank ABC sends to SCB
- Click on 'Accept'

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Sample Use Case

Self-Authentication

[Private and confidential only for NDID clients. Distribution or Reprint is not allowed.]
**Sample Use Case**

**Case 1: Open Account**

- **Step 10**: SCB leads you to the step of Authentication.
  - AAL 2.2 is required by Bank ABC
    - Pin code (sth you know)
    - Registered mobile (sth you have)
    - Facial Recognition (sth you are)

- **Step 11**: After Pin Code, Selfie of mobile owner is required to compare (Facial Recognition) with original data.
  - Waiting for Facial Recognition...
  - Done!!!

- **Step 12**: SCB confirms back to Bank ABC that authentication is completed. SCB also writes timestamp on blockchain.
  - The process is completed.
  - You are ready for next step.

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**Self-Authentication**
Sample Use Case

Bank ABC receives user’s information

User’s information is automatically filled in Register form

SCB sends data to Bank ABC outside platform

Case 1: Open Account

ABC Bank creates user and password for next use in its application

Click on ‘Confirm’

The account is already opened and ready to be used.

You may use other services of Bank ABC i.g saving, withdrawing, etc.

Thanks you.

The process is completed.

Step 13

Step 14

Step 15

Depends on the design, Bank ABC is willing to show
% Total RP Request Completed (per week)

Total Transactions (Since 6 Feb 2020) > 1 million
No. Of Banks 8

Thailand COVID-19 Lockdown

Total RP Request
Case 2: Motorcycle Loan – Digital ID Model

Sample Use Case

Customer needs loan

New KYC process with machine comparison

Bank needs to verify data

Verification Checklists
1. Customer (KYC)  
2. Proof of Address  
3. Income  
4. Credit History  
5. Total Debt  
6. Job Status  
7. Collateral

For the whole process, it may take time 2-3 minutes to approve if having complete data from trusted source.