



IDDDR

ID Digital Rupiah Whitepaper

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Disclaimer: This whitepaper may be updated from time to time as the company and project evolves.

Abstract

This whitepaper outlines the proposal for the creation of a new stablecoin, which will be backed by a reserve of fiat currency and designed for use in emerging markets. The stablecoin, called Project IDDR, will provide a secure, stable, and accessible alternative to traditional fiat currencies in regions where the local currency is experiencing high inflation. [This Project IDDR was developed by the team under supervision of PT Festival Anak Bangsa in collaboration with partners who are reliable and experienced in their fields.](#)

IDDR is intended to be a stablecoin that reflects the value of Indonesian Rupiah. ID Digital Rupiah with IDDR is issued by a leading company based in Indonesia. IDDR is an ERC-20 token built on Ethereum, BNB Smart Chain (BEP-20) and Polygon (MATIC), an EVM-compatible ("Ethereum Virtual Machine") blockchain.

The Ethereum blockchain is one of the most successful and well-known blockchains in the ecosystem, and boasts high TPS, robust security features and customisable transparency. These features are important for Project IDDR as a digital asset that provides consumers with a stable store of value.

In this whitepaper paper we introduce the ID Digital Rupiah (IDDR), a digital token that is fully backed, one-for-one (1:1) with the Indonesian Rupiah (IDR). IDDR is fully backed by a regulated financial institution. We describe the benefits, the use cases and the governance and oversight framework that enable IDDR token to function as an improved model for ASEAN fiat currencies. By providing a reliable, non-volatile asset, Project IDDR empowers both individuals and institutions within the region.

The IDDR vision is to revolutionize Indonesian Digital and FIAT Economies. IDDR effortlessly connects the realms of digital and fiat economies, ensuring stability and convenience. Furthermore, facilitating secure transactions within the Indonesia financial ecosystem. Overall, IDDR aims to revolutionize the way Indonesians engage with global finance, providing them with a stable and accessible currency that they can rely on.

Background

Evolution of Money

Money has played a critical role in human civilization, facilitating cooperation in producing goods and services, and propelling economic growth. Prior to the invention of money, people in early civilizations engaged in bartering goods they had in surplus for those they lacked. It wasn't until about 5,000 years ago that the Mesopotamian people created the shekel, which is considered the first known form of currency.

However, bartering proved to be inefficient and cumbersome due to the perishable nature of goods and the lack of a standard unit of value. To solve this problem, civilizations worldwide created various forms of physical money, ranging from rudimentary shell coins to more sophisticated metal coins made of bronze, silver, and gold. As civilization and the global economic system advanced, more convenient forms of money emerged, such as paper money, credit/debit cards, contactless payment cards, and various digital forms of money.

Money in the post-dot-com era

Blockchain as the future medium

Over the past two decades, the rise of the internet has connected billions of people worldwide and enabled them to share information instantly and securely at no cost. This has allowed individuals from developing countries like Indonesia to access high-quality educational materials, such as engineering videos on YouTube and free online courses from institutions like Harvard University.

In recent years, we have seen the increasing adoption of QR code-based payment systems in Indonesia, operated by digital wallet providers like DANA. While these services offer significant convenience for Indonesians to transact locally, they have 2 main weaknesses. First, all balance records and financial transactions are stored in a centralised entity, leaving them vulnerable to manipulation by malicious attackers. Second, the closed nature of these platforms means that money stored with any service provider can only be used by users and merchants within the system, hindering use cases such as cross-application settlement, cross-border remittances, and international transactions.

We believe that distributed ledger technology, or blockchain, will drive the next phase of money evolution. Just as the Web 2.0 internet enabled borderless and instant movement of information, Web 3.0 blockchain technology will allow us to exchange value and transact with one another instantly, securely, globally, and at low cost.

Existing digital assets are highly volatile

Throughout history, no matter the form or shape that money has taken, it needs to fulfill three main functions:

1

As a means of exchange

Distributed Ledger Technology (DLT) eliminates the need for a central authority or intermediary to process, validate or authenticate transactions. Project IDDR tokens are DLT-enabled extensions of the IDDR transactions ledger, which provide its holders with the additional security and transparency through open and immutable cryptographic proof of consensus. IDDR tokens are available 24/7 from anywhere in the world, offering instant settlement capabilities anytime, anywhere.

2

As a standard unit of account

Today, most active stablecoins are denominated in US Dollars. We believe that this current state is not representative of users' demand but rather due to a lack of trusted and compliant alternatives denominated in other fiat currencies. IDDR is well positioned to offer trusted and compliant alternatives denominated in Indonesian currency, given their strong presence and regulatory compliance in Indonesia.

3

As a stable store of value

IDDR tokens are fully collateralized one-for-one with Indonesian Rupiah, meaning that each IDDR is fully backed by an equivalent amount of fiat currency or equivalent held in reserve. This approach ensures that the tokens remain price-stable and compliant with local regulations for user protection. IDDR conducts internal reconciliations with regular independent third-party audits to demonstrate transparently that the IDDR token is fully backed.

IDDR

ID Digital Rupiah

At IDDR, we don't take the trust that our customers have given to us lightly. By combining these features into our IDDR token, we believe that it provides the most appropriate mechanism to both maintain price stability with the underlying asset and comply with local regulations for user protection.

In contrast, non-collateralized crypto assets such as Bitcoin are notoriously volatile and may not serve as stable stores of value. IDDR tokens offer a more stable alternative that can exist in the blockchain while maintaining a relatively stable value.

Below table summarizes key aspects across IDDR, physical gold and Bitcoin so it is clear why IDDR is a valuable option for Indonesians worldwide.

Traits of Money	IDDR (Programmable Money)	Gold (Physical)	Bitcoin (Crypto)
Fungible (interchangeable)	High	High	High
Easily Transactable	High	Moderate	High
Portability	High	Moderate	High
Divisible	High	Moderate	High
Secure (Difficult to Counterfeit)	High	Moderate	High
Stability in Value	High	Moderate	Low
Decentralised	Moderate	Low	High
Smart	High	Low	High

The logo consists of the letters 'IDDR' in a bold, green, sans-serif font, centered within a white circle. This circle is set against a larger, light green circular background that overlaps the top right corner of the page. The overall design is clean and modern, with a focus on the green color palette.

IDDR

Stable Assets for Indonesians, by Indonesians

Stablecoins are essentially non-interest bearing coins designed to have stable value against a reference currency – say IDR 1. Stability is achieved through two commitments. First, the issuer agrees to mint and buy back coins at par. Second, the issuer holds assets to back its obligation to redeem the outstanding stablecoins. This “reserve” provides comfort that the issuer can buy back all outstanding coins, on demand. Reserve assets are denominated in the currency of the reference asset, remain highly liquid during a crisis, and incur extremely small losses in a run or stressed market conditions.

True stablecoins should hold 100% reserves in high quality, liquid assets – like cash or cash-like instruments – against their coin liabilities, plus an additional capital cushion against operational losses, asset price declines, or a run. Furthermore, they should isolate reserve assets from their other assets, so that in insolvency or bankruptcy, coin holders can be prioritized over other creditors.

Such stablecoins have utility as a medium of exchange. They would be optimized for efficiently moving value as opposed to storing value or earning interest. Their cost structure makes them viable when their coin velocity is high and can support a large volume of payments with a small reserve.

Furthermore, through IDDR we believe that we can accelerate Indonesia’s blockchain adoption and familiarity.

Stable Assets for Indonesians, by Indonesians

Benefits and Strengths of IDDR

IDDR is built on the Polygon, an EVM (ethereum virtual machine) compatible blockchain that allows users to scale transactions with much smaller fees than the Ethereum mainnet.

IDDR follows the widely accepted ERC-20 token standard, which makes it very easy to integrate and inherently compatible with many existing Ethereum-based applications. . This opens up a great range of use cases and potential for adoption.

All transactions are executed through smart contract, which eliminates the possibility of human error and increases the overall security and transparency of the platform.

A Faster and simpler solution for moving value throughout the blockchain for Indonesians or users who utilizes the Indonesian Rupiah daily.

Stable Assets for Indonesians, by Indonesians

Tradeoffs of IDDR

While Polygon is designed to reduce fees (costs are measured in cents) and increase transaction throughput (typically 65,000 TPS), compared to the Ethereum mainnet, it is still subject to congestion during periods of high network activity. In some cases, this can lead to increased gas fees for users and longer wait times for transactions to be confirmed.

While Polygon is a relatively new network (created in 2017), it may still have some bugs or vulnerabilities that have yet to be discovered. Nevertheless, this is a risk inherent in any blockchain or crypto assets project.

Stable Assets for Indonesians, by Indonesians

Use-case: Crypto-assets Trading

The main purpose of IDDR is to facilitate crypto-asset conversion that is both seamless and efficient. With IDDR, Indonesian traders now have the option to convert their volatile crypto into a more stable token (IDDR) that is fully backed by fiat Indonesian Rupiah. With a fixed exchange rate, IDDR provides users with stable digital currency to convert and park their assets, especially useful in times of market volatility or uncertainty,

IDDR is built under a pillar that emphasizes the importance of security and accountability, these standards will be held for both IDDR and its partners. IDDR ensures the confirmation of crypto exchange partners and future partners to be regulated and licensed under BAPPEBTI (Commodity Futures Trading Regulatory Agency). In addition, IDDR will make sure that strict compliance requirements, including Know-Your-Customer (KYC) and Anti-Money Laundering (AML) regulations are being strictly implemented by IDDR partners. IDDR users are guaranteed that they are compliant with applicable regulations, as the stablecoin is issued and backed by a regulated financial institution.

On the other hand, the use of IDDR in crypto-currency trading presents opportunities for Web 3.0 companies to create new and exciting projects that can integrate easily with IDDR.

The transparency and trust offered by the blockchain technology can help to foster an open financial system that supports frictionless and safe transfer of value for consumers and businesses. With IDDR, users can have a stable digital asset that is pegged to the Indonesian Rupiah, which can provide them with a reliable and transparent means of exchanging value in the digital economy.

Roadmap

Phase 1

- ID Digital Rupiah entity founded
- IDDR smart contract and system development start
- IDDR pilot project started (Internal use case)

Phase 3

- IDDR listing on Indonesia crypto exchange
- IDDR global listing and use cases
- Integrate with DeFi platform

Phase 2

- IDDR backed with regulated financial instruments
- IDDR wallet deployed
- IDDR system development complete
- IDDR smart contract deployed (BEP20)
- IDDR smart contract audit started

Future Dev

- Support the implementation of Project GARUDA
- Support cross border payment system
- Remittance and global disbursement

Technology Overview

About Ethereum Blockchain

Ethereum or Ether is a public decentralized blockchain that allows people to build applications on the Ether network. Founded in 2015, Ethereum presents a technology called Smart Contract as the fundamental building blocks of Ethereum applications. Smart contracts are computer programs stored on the blockchain that allow converting traditional contracts into digital parallels. Smart contracts are very logical - following an if this then that structure. On this first deployment, IDDR will be working on Ethereum network (ERC20) before we will explore another possibility to working cross chain such like Polygon (POL).

ERC20 will cover basic functions of IDDR, as follow:

- `mint()` and `burn()`
- `totalSupply()`: Returns the total token supply.
- `balanceOf()`: Gets the balance of the account for the given address.
- `allowance()`: Returns the allowance amount from `_owner`.
- `transfer()`: Transfers the balance from the owner's account to another account and must fire the transfer event.
- `transferFrom()`: Sends the amount of tokens from address `from` to address `to`. The `transferFrom()` method is used to withdraw the workflow, allowing contracts to transfer tokens on your behalf.
- `approve()`: Allows the spender to withdraw from your account with a certain amount.

IDDR will utilize the streamlined characteristics of ERC-20 such as the adherence of smart contracts, ensuring simpler yet standardized transactions thus improving the liquidity.

Overview of BNB Smart Chain

BNB Smart Chain is an innovative solution to bring programmability and interoperability to BNB Beacon Chain. BNB Smart Chain relies on a system of 55 validators with Proof of Staked Authority (PoSA) consensus that can support short block time and lower fees. The most bonded validator candidates of staking will become validators and produce blocks. The double-sign detection, malicious vote detection and other slashing logic guarantee security, stability, and chain finality. Other than the 32 active validators, BSC will introduce more validators, e.g. another 23 inactive validators, into the validator set as backups, which will be called "Candidates".

Candidates will produce blocks and charge gas fees in BSC mainnet, but in a much less chance than the official validator set of 32 elected. The unavailable candidates will be slashed as well though in a smaller size. A decent motivation is expected to be maintained so that the candidate validators are willing to ensure the quality and help secure BSC.

In an extreme case, if a majority of the active 32 validators get attacked and offline, Candidate Validators can report to BNB Beacon Chain about the stale blocking, resume it and eventually propose a re-election of the active validator set.

The BNB Smart Chain also supports EVM-compatible smart contracts and protocols. Cross-chain transfer and other communication are possible due to native support of interoperability. The BNB Smart Chain will be:

- **A self-sovereign blockchain:** Provides security and safety with elected validators.
- **EVM-compatible:** Supports all the existing Ethereum tooling along with faster finality and cheaper transaction fees.
- **Fast Finality:** Finalizes the chain within two blocks in most cases.
- **Interoperable:** Comes with efficient native dual chain communication; Optimized for scaling high-performance dApps that require a fast and smooth user experience.

- **Distributed with on-chain governance:** Proof of Staked Authority (PoSA) brings in decentralization and community participants. As the native token, BNB will serve as both the gas of smart contract execution and tokens for staking.

Overview of Polygon Blockchain

Polygon (originally known as POL) is a decentralized blockchain that allows software programs, called Smart Contracts, to be written and executed on the blockchain. As Polygon is based on Ethereum blockchain, Polygon smart contracts are written in solidity based on ERC-20 standards, consistent with that for Ethereum blockchains.

Below table summarizes some key differences between Polygon and Ethereum.

Factors	Polygon	Ethereum (post-Merge)
Consensus Mechanism	Proof of Stake	Proof of Stake
Transaction Speed	65,000 TPS	15 TPS
Scalability	Multi-chain architecture offer better scalability	Limited
Year of Foundation	2017	2013

For more information, you may refer to the following resources to learn more:

1. <https://github.com/maticnetwork/>
2. <https://github.com/maticnetwork/whitepaper>

Business Model of IDDR

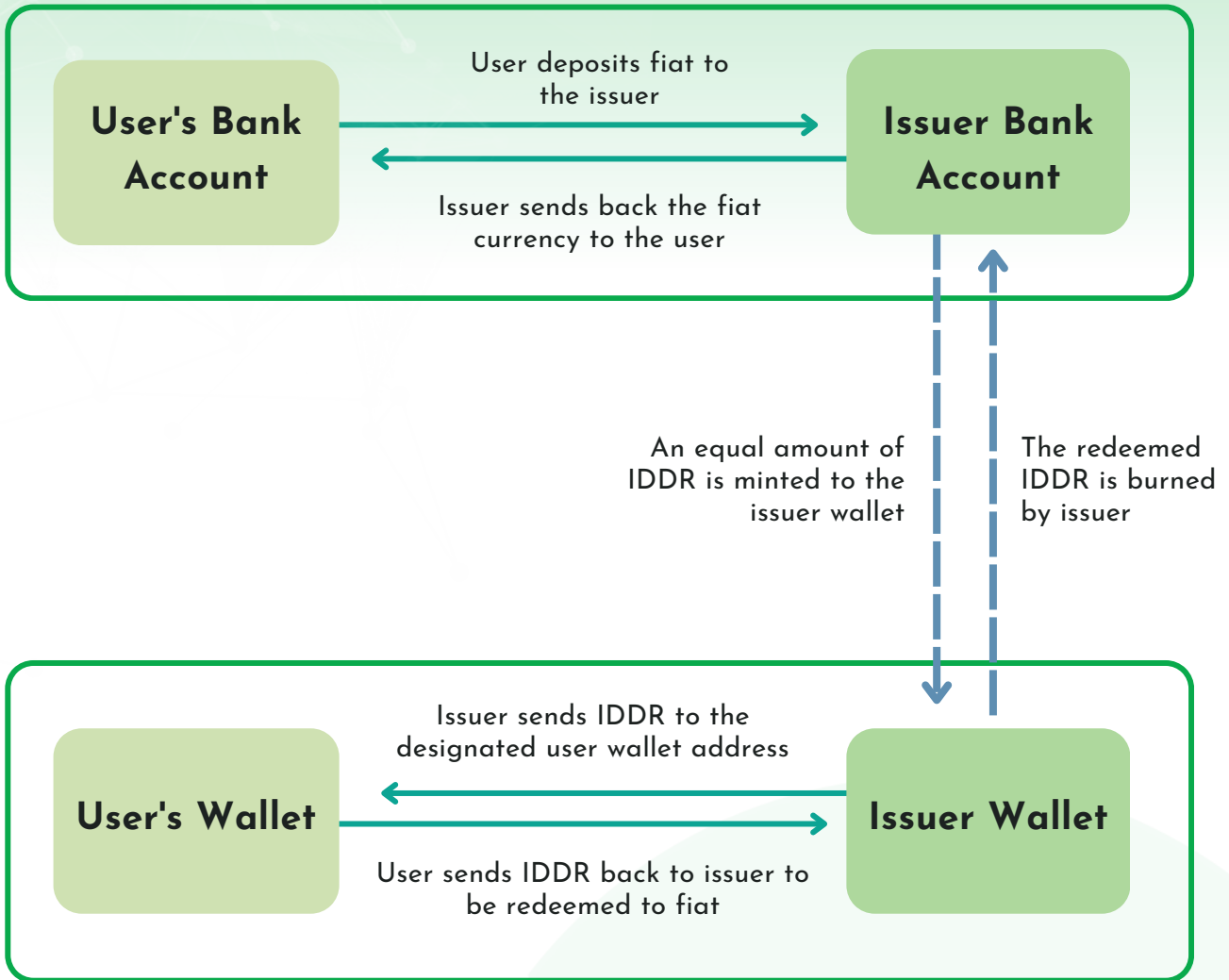
The foundation of IDDR is supported by an entirely liquid portfolio comprising 100% cash and cash-equivalent assets. These assets, carefully selected from Indonesia, are characterized by their low-risk profile, ensuring stability and security. Furthermore, each asset within the portfolio has acquired legal licensing from the government, reinforcing the commitment to regulatory compliance and enhancing the overall credibility of the investment strategy.

Ownership of IDDR

IDDR, like any other crypto assets, is fully owned by its users through their own private keys. This means that users have complete control over their IDDR, and no one else can access it without their permission.

IDDR is also always redeemable 1:1 for Indonesian Rupiah through Project IDDR.

Off-chain



On-chain

Security of IDDR Tokens

Project IDDR takes security very seriously and will conduct smart contract audits before launch. We want to ensure that our smart contract is flawless and that our users' funds are safe. We will be working with a reputable auditing firm to ensure that our smart contract is secure and meets industry standards. IDDR smart contract audit is on progress.

Audit of IDDR Reserves

We understand that transparency is very important for our project. We are committed to providing our users with complete and accurate information about our reserves. We are relying on an attestation partner to provide proof of reserves service on a monthly basis, which can be checked directly on our website. This allows our users to verify that IDDR is always backed 1:1 by cash and cash equivalent assets at all times.

ID Digital Rupiah Team

On the IDDR team, we are working with the best experience and expertise across the financial industry.



Fandy Label Honggono
CEO

Before establishing IDDR, Fandy was leading the business development team at Nanovest. As a web3 enthusiast, Fandy is passionate in blockchain technology to improve the efficiency and transparency of the financial system.



Liem Yuliana
Finance Advisor

10 years of experience as Finance head in several leading industries. Including lead Finance team at Sinarmas Mining Group.



Willyanto Wijaya Sulaiman
Technical Advisor

Web3 and Blockchain enthusiast, launch one of the biggest crypto project in Indonesia, Nanobyte.

Final Words

Our team has developed a sustainable stablecoin called IDDR, which is pegged to the Indonesian Rupiah. By leveraging the stability and efficiency of the Ethereum and Polygon network and implementing Smart Contract designs such as automated proof of reserve and multisig authorization, IDDR provides a secure and stable store of value for Indonesians looking to participate in the emerging blockchain-based economy.

IDDR offers a reliable alternative to traditional fiat currency, providing users with the benefits of decentralized finance without the volatility associated with other cryptocurrencies. By leveraging the latest blockchain technology and adhering to regulatory standards, IDDR will be a leading stable storage and exchange of value for all Indonesians within and beyond our geographical borders.

Disclaimer

The following document provides information about IDDR stablecoin. This document is intended for designated recipients as part of the regulatory purpose only. If you received this document by mistake, please proceed with its deletion, and inform us so that we can ensure such a mistake does not recur in the future.

The stablecoin project involves the use of complex technologies and algorithms, and so the information provided in this document may change from time to time. Any future versions and updates will be published on our website, <https://www.iddr.io/>

References

Weimin Sun, Xun (Brian) Wu, & Angela Kwok, Security Tokens and Stablecoins Quick Start Guide, Packt Publishing, 2019