

**TECH OFFER**

**Platform for Blockchain-based Decentralised Application Development**



**KEY INFORMATION**

TECHNOLOGY CATEGORY:

Infocomm - Blockchain & Other Distributed Ledgers

TECHNOLOGY READINESS LEVEL (TRL): **TRL9**

COUNTRY: **SINGAPORE**

ID NUMBER: **TO174559**

**OVERVIEW**

While interest and demand for blockchain-related technologies continue to gain popularity and spurs the exponential growth in adoption of blockchain in areas such as payment, documents and digital identities, not just in finance, but in industries such as logistics, supply chain as well. Many emerging areas that rely on blockchain as a core technology lack the manpower needed to sustain budding development, this lack of technical skillset required for blockchain development is the primary hurdle to successful blockchain application development - less than 1% of the tech workforce is skilled or competent in blockchain-related development.

The characteristic of blockchain technology, which enables a permanent record of digital information such that it cannot be modified by any single entity renders it well suited as a digital ledger of online transactions. As such, blockchain is a core technology for many emerging areas such as Decentralised Finance (DeFi) and Decentralised Autonomous Organisation (DAO).

This technology offer consists of a platform tool and a set of zero-configuration REST APIs that abstract away the complexity of

blockchain technology and enables any developer to easily build blockchain-based applications or integrate blockchain functionality into their existing systems. Intended as a low-code platform, it addresses the skills gaps traditionally required for blockchain development and deployment and allows companies to realise their blockchain ideas, enhance business operations and expand solution offerings.

## TECHNOLOGY FEATURES & SPECIFICATIONS

The core of this technology is a chain-agnostic, node-wrapping, enterprise-grade middleware that includes a suite of documented REST APIs, developer tools, and frameworks required for the development of blockchain-based applications and their integration into a company's existing systems.

It includes the following features:

- Supports both permissioned (private) and permissionless (public) blockchain networks
- Orchestration between the nodes and synchronisation are handled by the platform
- Flexible Scalability - enabling scale in/out, scale up/down
- Integrates with a decentralised peer-to-peer file storage system to ensure data is stored off-chain (InterPlanetary File System, IPFS)
- Integrated development environment (IDE) for custom code port-in from an external repository
- Library of ready-to-use smart contracts (fungible tokens, non-fungible tokens)
- Selectable blockchain protocol (Ethereum, Ethereum Mainnet, Corda, Hyperledger Fabric)
- Decentralised application can be deployed on any cloud provider (Google Cloud Platform, Amazon Web Services and Microsoft Azure)

## POTENTIAL APPLICATIONS

This technology allows for the development and deployment of blockchain use cases for any industry.

The following areas have benefited from this technology, and are readily available as working smart contracts for use on the platform:

- Food and vaccine safety/quality/authenticity traceability
- Circular economy, digital asset tokenization
- Green financing/loans, green bonds, carbon credit tokenization

## UNIQUE VALUE PROPOSITION

Any use-case which is able to leverage on blockchain's inherent properties of immutable traceability and auditable trails will benefit from this technology, including the following benefits:

- Low-code platform simplifies blockchain application development, deployment and integration, especially for businesses that want to use blockchain but don't necessarily have the know-how
- Automatically encompasses the best practices for blockchain development
- Eliminates the repetitive tasks and overhead required to build robust blockchain applications
- Reduces the time from use-case ideation, to development and PoC deployment in just 1~2 months - speeding up

the testing of an actual use case allows businesses to quickly gauge the blockchain use-case's impact and make data-driven decisions

- Industry-agnostic - build any use-case with a library of ready-to-use smart contract templates, enabling rapid development, configuration and deployment in a single platform
- Applicable for asset tokenization, supply chain traceability, trade finance, etc. that would benefit from immutable blockchains and auditable trails including, but not limited to sustainability initiatives