

Piccolo Research

Independent research on blockchain startups and ICO's

An independent review of Swingby (SWINGBY)

21 February 2020 - Lennard Neo

(Updated as of 21 July 2020)

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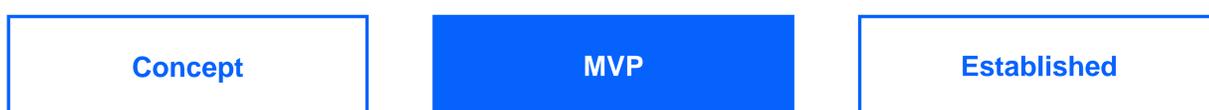
ASTRONAUT | CAPITAL

SWINGBY (SWINGBY)

A Premier Fully-Decentralized Token Swap Platform Integrated with a Private Trusted Cloud Ecosystem

Summary

Swingby is a high-speed protocol enabling inter-blockchain swaps in a trustless environment. The platform consists of 3 different components that allow interoperability swaps across blockchains (swapping BTC into BTC.B on Binance Chain), a trusted cloud environment (with physical servers deployed underground), and a Binance chain based protocol to facilitate swapping of assets between any tokens.



Company Overview

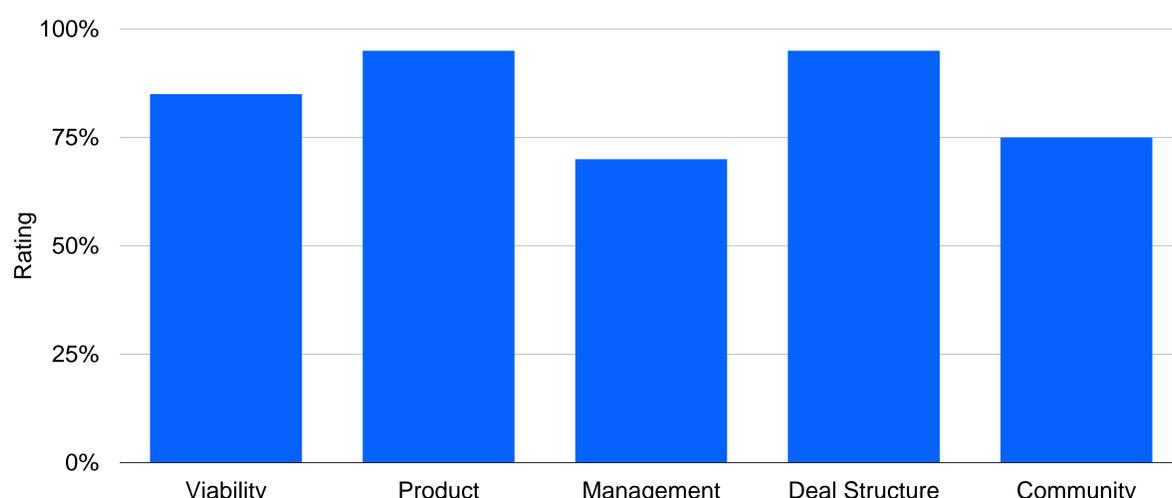
Incorporated in Singapore, Swingby seeks to bridge two separate blockchains through swaps to enhance liquidity and accelerate the potential adoption of these networks. The project is creating a decentralized cross-chain protocol which soft pegs BTC, ETH, BNB or any other native tokens across chains through decentralised custody.

Updates from Previous Report (21 Feb 2020)

- Rating update from 'Spec Buy' to 'Buy'
- Implemented new system architectures (with tx-indexer) and TSS updates
- Roadmap updated to include mainnet listing, public sale and marketing efforts
- SWINGBY Tokenomics updated
- Investors who participated in Swingby
- Competitor analysis updated

**Updates are included in the report, with prominent details highlighted in bold*

Birds-Eye View



Buy



General

Ticker: SWINGBY

Website: [Click here](#)

Sale Period: Jul 2020

White Paper: [Click here](#)

Sale info

Pricing: \$0.025

Accepted: USDT

Min Goal: NA

Cap: \$0.2m

Market Cap: \$25m (diluted basis)

Token Sale %: 0.8%

Initial Circulating Supply: 3%

Checklist

Management: ✓

Product: ✓

Commercial: ✓

Interest: ✓

Fulfilment: ⚠

Product & Strategy

Swingby is an ecosystem of products that enables the swapping of tokens (Inter-blockchain & Token-to-Token) between blockchains in a trustless cloud environment. With a vision of deploying “Bitcoin across all chains”, the team’s goal is to enhance liquidity and cross-chain interoperability of Bitcoin (BTC) for a start. This is done without having the need for trusted custody (e.g. Kyber Network), allowing the transfer of value in a fully decentralised manner. The Swingby Platform encompasses 3 different components:

1. Swingby Skybridge (For Inter-blockchain Swaps)
2. Swingby Trusted Cloud (Cloud Compute Environment)
3. Swingby Sky Pool (Decentralised Swapping Exchange of Tokens)

Swingby Skybridge

Skybridge will be the first implementation of the Swingby platform, which allows the swapping of tokens effortlessly from one blockchain to another. Initial phases will begin with Bitcoin, where users can create a BTC stablecoin to be used on Binance chain, ultimately taking advantage of faster settlement times, lower fees, improving liquidity for trading on DEXes, and leverage on other features that a native chain does not offer.

Several features of Skybridge include:

- Bitcoin mobility across various blockchains
- No central custodian
- Utilizing Threshold Signature Scheme (TSS), which is data-light and allows usage on any ECDSA chain
- Dynamic re-grouping

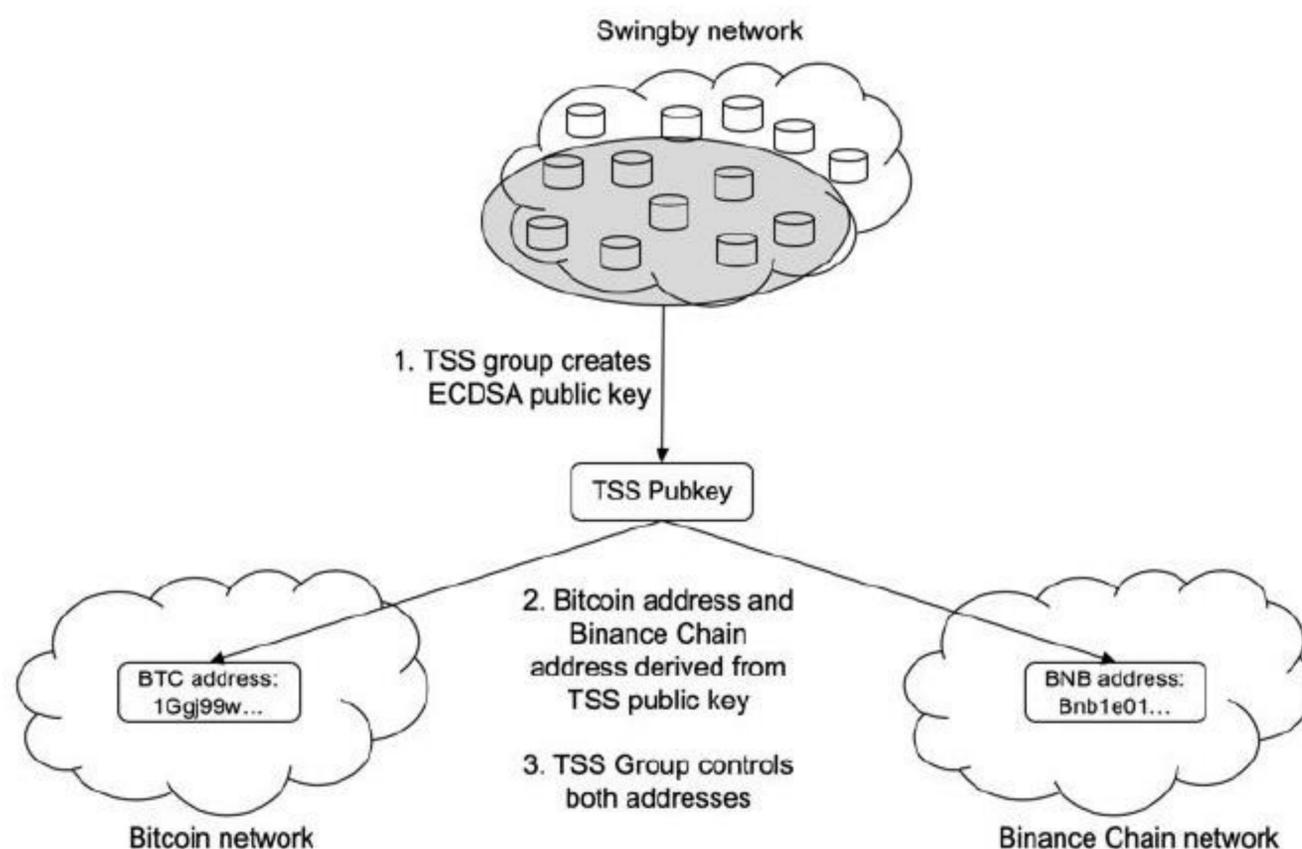


Figure: Swingby Network

TSS Updates

The team is further upgrading the protocol, with an aim to enhance the stability of the network. One such upgrade was the new implementation to the TSS feature, based on recent research from the [GG20 paper](#). This will greatly enhance the speed of cross-chain swaps, that is not seen in other decentralised protocol. Several highlights include:

- Identifiable aborts
- Faster signing rounds
- One-round signing
- Benchmarking tool
- General refactors & cleanups.

System Architecture Updates

The team has constantly improve the architecture for Swingby nodes by modularization of each blockchain request processor. These are done to mainly split and store BTC transactions into multiple UTXOs, which will be combined into a unique ID that consolidates output **index** rather than transaction hash.

This unified format has been created by the team, coined as the 'tx-indexer' and currently being tested. The latest indexer will support APIs for sending and receiving BTC / BEP-2 transactions, with ERC20 support in the near future.

Documentation for 'tx-indexer' API can be [found here](#), and [github repository here](#).

Overall, this architecture will define a new universal transaction format for BTC, BNB and other chains.

Swingby Sky Pool

Swingby Sky Pool is a liquidity aggregator that allows any token-to-token swap that corresponds with Binance DEX. The team plans to release the whitepaper 2H 2020, with an aim to start building this infrastructure in 2021. Eventually, this platform will be able to support over 35 chains that utilize the ECDSA algorithm.

Roadmap (Updated)

Swingby has an adequate roadmap with most being technical objectives across 2020. Business and community development efforts have also been included in the timeline to showcase their go-to-market strategy for adoption.

The testnet in January was a huge success as the platform saw a volume of 1,300,000 BTC transacted over the network.

Roadmap	Developments	Status
Jan 2020	Private sale of Swingby	Completed
Jan 2020	Skybridge Testnet launch - Bidirectional BTC swaps to Binance chain	Completed
Jan 2020	Swingby community contest	Completed
Feb 2020	Pre-Staking portal initial setup	Completed
Mar 2020	Swingby token swap volume competition	Completed
Q2 2020	Pre-staking Portal live	Completed
	Marketing & Community efforts 1 st Phase (media interviews, new articles coverage, 1-pager marketing and graphics design, channel promotions)	Completed
Q3 2020	Mainnet Launch – Bidirectional BTC swaps to Binance Chain	
	Public Sale	
	Pre-Staking Competition - BNB	<i>In Progress</i>
	Marketing & Community efforts 2 nd Phase (more news and media coverage, community airdrops, AMAs)	<i>In Progress</i>
	Market buyback of SWINGBY from fees begin	
Q4 2020	Market Buyback and Fee Distributions as swaps happen on the SWINGBY network	
	Testnet launch – Bidirectional USD swaps to Binance chain	
2021	Mainnet launch - Bidirectional USD swaps to Binance chain	
	Float Pool Staking (any chain) launch	
	Launch Sky Pool and Sky Oracles - multi-chain cross-network liquidity hubs and oracle clusters across all compatible blockchain networks	

Team & Advisor

Yusaku Senga (CEO & Technology Architect) - Yusaku has been active in the blockchain industry for over 8 years. Prior to founding Swingby, he initiated the Decentralizedtech Research Institute (DRI), a community that actively researches and develops decentralized technologies. He has experience in creating proof of concepts for financial institutions and blockchain projects.

Rye Nguyen (Software Developer) - Rye has several years of experience as a Full-stack web developer, working for firms in the information technology and services industry. As a passionate programmer, he is skilled in C++, C#, Python, PHP, JavaScript, React.js, GraphQL and Express.js. He holds a bachelor's degree in Computer Science from the Vietnam National University.

Shoe Kure (Software Developer) – With 5+ years of experience, Shoe has been managing and planning projects for SiiX corporation. Being well-versed in JavaScript, TypeScript, Python, Golang, Solidity, React and Firebase, he has a great interest in web and blockchain development with 1300+ contributions on his [Github](#) over the past year. He holds a bachelor's degree in Management from Sun Yat-Sen University.

Sagwan Kim (Designer) – Kim has 8+ years of experience under his belt as a designer with a vast spectrum that includes product UI/UX design, BI/CI, growth model design. Prior to swingby, he was a chief design officer and head designer for Another Works Inc. and Able Computer Inc respectively. He holds a bachelor degree in Architecture from Tokyo University of Science.

Jacob Samuel (Software Engineer) – Jacob has 4+ years of experience as a software engineer and is well-versed in Golang, NodeJS, Python. He worked for YouView TV upon graduation, where he was part of the cloud and test automation team delivering tv content to 5 million users. More importantly, he has another two years of experience in the crypto sector working for a top-tier exchange, helping them to develop exchange API and integrate algorithmic trading systems. He holds a bachelor's in computer science from The University of Hull.

Satoshi Kobayashi (Project Development Advisor) - Satoshi is one of the largest traders of cryptocurrencies in Asia. After a successful career as a hedge fund director, he began angel investing, taking on advisory roles for blockchain projects. Today, Satoshi controls a portfolio of cryptocurrency that is worth hundreds of millions of dollars.

Lincoln Tan (Legal Advisor) - Lincoln is an experienced Legal Counsel and Lawyer, holding several positions at renowned law firms in Japan, Singapore and Vietnam. Before his current position as Legal Counsel at Novartis, he was working as a Foreign Attorney at Nishimura & Asahi and as a Lawyer at Anderson Mori & Tomotsune, two of Japan's Big Four law firms. He earned a Law degree (LLB) from the University of Warwick.

Investors (Updated)

- Astronaut Capital - A research-integrated fund that focuses on pairing fundamental and qualitative research with strategic capital deployment. Past investments include 0x, Loki, Current, TrustToken, Quarkchain, Synthetix.
- Signum Capital – Signum's mission is to realize the future of Blockchain economy by consulting in game changing projects and companies. Past investments include Kyber, Tomochain, DxChain, Zilliqa, Republic, Celer.
- Neo Global Capital – NGC invests in inspiring projects related to blockchain. Past investments include Bluzelle, Zilliqa, Trinity, Fortuna, Ontology, Dekrypt Capital, mainframe, Switcheo, Solana, Ankr, Blockcloud, NKN, Elrond.
- Youbi Capital – Youbi Capital is committed to long-term value investment in the blockchain ecosystem and has invested in more than 20 next-generation blockchain technologies and Dapps, nearly US\$60m.
- Origin Capital – A long-term focused fund with an emphasis on early stage equity and presale rounds. Past investments include Top network, Kyber network, EOS, DxChain, Decentraland, Kadena, mainframe, irisnet.

Community Engagement / Social Media (Updated)

Swingby has leveraged several social media platforms, mainly Telegram and Twitter, Wechat for community engagement. A Swingby blog on Medium was also incorporated to provide updates on the project's developments in both English and Chinese.

As the project just recently got onto the radar, the project is relatively new in public eyes, and the priority is to generate organic growth of followers and awareness of their platform. A [Swingby contest](#) and [Pre-staking BNB campaign](#) was put in place to kickstart adoption, with several marketing plans in the pipeline. Here are the project social media statistics as per the report date:

- **Telegram (English) – 1,180+ members (+475% from previous report)**
- **Wechat (Chinese) – 2,500+ members**
- **Twitter – 4,400+ followers (+980% from previous report)**

Token Sale (Updated)

SwingBy raised a total of ~\$1.6m in seed and in a private round. Total token supply is fixed at 1b SWINGBY with 10.9% allocated to all funding rounds.

Token Details	Details
Public Sale Date	23 Jul 2020
Sale Platform	BitMax
Token Symbol	SWINGBY
Token Type	Utility
Issuance Platform	BEP2
Total No. of Tokens	1,000,000,000
Price per Token (Public)	\$0.025
Price per Token (Seed/Private)	\$0.017 (Seed) / \$0.02 (Private)
Accepted Tokens	USDT
Softcap	NA
Hardcap	USD 0.2m
Market Cap Valuation	USD 25m (Fully Diluted basis assuming hard cap reached)
Market Cap (Based on Initial Cir. Supply)	USD 0.75m
Token Lockup (Investors)	20% unlock, quarterly vesting for 12 months (Seed) 10% unlock, quarterly vesting for 12 months (Private)
Token Lockup (Team)	1y lock, quarterly vesting for 12 months

The main token functionalities of SWINGBY are of 3 folds:

- Staking – Users will be able to earn rewards when staking tokens
- Operating nodes – Participate in a TSS group to run nodes on the Swingby network
- Currency/ payment transaction – Tokens can be used to pay for services (e.g. trusted cloud service)



Staking Structure

From Picolo's research findings, one of the major thematic outlooks for 2020 is the rise of key projects having well-structured staking rewards to drive adoption and growth of a platform. The reason being investors who are starved for yields have been looking for alternatives on the back of a sluggish alt-coin season in 2019 to grow their existing portfolios. This results in investors turning their sights to tokens with strong staking incentives to enhance their yields.

Putting this into context with historical data, our analysts observed that the market reacted positively after recent projects released their staking announcements, displaying returns of 20% - 60%.

Project	ROI Post Staking Announcement	Staking Yield (Annualised)
Matic Network*	22%	20%
Elrond	27%	20 - 32%
Kava	36%	14 - 16%
Thorchain	60%	52%
Synthetix	32%	55%
Swingby	NA	13% – 67%

Source: *Stakingrewards.com, Binance (as of 21 Feb 20)*

*Assuming 30% total tokens staked

Pre-staking before Mainnet

Through our initial conversations with the Swingby team, the pre-staking mechanics are derived not just to incentivise early adoption of the network, but also to put implicit pressure on the team to deliver their milestones. A few key points of the staking mechanism include:

- Any unlocked tokens can be staked at weekly intervals
- Yield of 1% cumulative per week (~67% annualised compounding) till mainnet launch (first swap pair)
- Yield of 0.75% per week until second swap pair launched
- Yield of 0.5% per week until third swap pair launched
- Yield of 0.25% per week until fourth swap pair launched
- Users will have full control of staking wallet, completely decentralised

Post-staking after Mainnet

Users can run validator nodes once mainnet is launched, and they will be rewarded with a proportion of the fees base on the volume of the network. In order to smooth the transition from pre-staking to post-staking, the time periods between both phases will overlap, providing additional yields (0.75% - 0.25%) to stakers until the 4th swap pair is launched. This will also ensure sufficient time for interested community members to set up their nodes.

The team will officially provide further information on the staking specifics in due course.

Non-Plagiarism Audit Report

During Pico's assessment of Swingby, our analysts noted that there were several disreputative tweets with regards to the project copying Thorchain's graphics and codes.



However, the team responded swiftly through a [Medium blog post](#), stating that Swingby is a unique protocol customised by their developers from scratch, and has not been copied. They also mentioned that it was an unfortunate event with regards to the graphics, as it was an act of the external contractor that resulted in similar graphics used on their website and that the team has highly regretted it.

To take it further, Pico mandated an independent company (Red4Sec) to conduct a [non-plagiarism audit report](#) between Swingby and Thorchain. Three key findings were observed:

1. Macro-level - even though both projects seek to provide cross-chain swaps and use TSS, their implementations and code logic display vast differences. For example, Swingby network implement TSS through a keygen process followed by a transaction signing process, while Thorchain TSS elements involve the use of a helper script function
2. Whitepaper & Documentation analysis - Swingby and Thorchain whitepaper displayed 0.7% plagiarism similarity, which is way below the conventional acceptance level of 15%. Moreover, these similarities are induced by the reference to the ECDSA research paper used by both projects.
3. Source code analysis – During the code audit, a third project (BTCD, a bitcoin node), was added as a control group. It was observed that there were no material similarities between the codes that could allude to plagiarism. In some instances, several segments such as the syntax tree search of numerical values have produced a higher similarity percentage (%) between 'Thorchain and BTCD' as opposed to 'Swingby and Thorchain'.

Competitor Analysis (Updated)

Within the sphere of swapping platforms / DEXes, Swingby displays distinguishable objectives against its peers, carving a niche for its own within the sector. Unlike RUNE and SNX, Swingby's initial focus is to enable interoperability of Bitcoin onto Binance Chain versus the Ethereum platform. Swap mechanics also differ between Swingby and Thorchain, as the former uses indirect with peg as compared to a direct approach without peg.

Project Name	SwingBy Skybridge	Thorchain	Synthetix
Infrastructure Type	Inter-blockchain Swap Protocol	Inter-blockchain Swap Protocol	Synthetic asset issuance protocol
Symbol	SWINGBY	RUNE	SNX
Inter-Blockchain Focus	Mainly Crypto, with an initial focus on Bitcoin (BTC) to Binance (BEP2) Swaps	Mainly Crypto, with an initial focus on Binance (BEP2) to Ethereum (ERC20) Swaps	Mainly Crypto to FX (Stablecoins) & Traditional Markets (e.g. Commodities)
Swap Mechanics	Indirect (Native tokens are not transferred, but peg to alternative chain)	Direct swap (no peg, no wrap tokens)	Indirect (Native tokens are not transferred but peg), require SNX tokens as stake for peg
Available Assets for Swaps	Binance BEP2, BTC, (ERC20, EOS, XRP, DASH, any ECDSA chains in future ¹)	Binance BEP2, Ethereum ERC20, (BTC, ETH)	Ethereum ERC20, LTC, BTC, XTZ, XRP
Token Attributes	Staking	Staking, Burning	Staking, Burning
Product Stage	Testnet	Testnet	Mainnet
Protocol	POS / TSS	POS / TSS	NA (Ethereum)
Initiation Year	2018	2018	2017
Team	Singapore	Anonymous	Australia
Current Token Price	\$0.025 (IEO)	\$0.554	\$3.36
Market Cap Valuation	\$0.75m (based on initial cir. supply)	\$98m	\$404m

Figures as of 20 Jul 2020, Source: CoinGecko

¹Refer to Appendix

Strengths

- Swingby is not just a swapping platform but encompasses an ecosystem with a Trusted Cloud environment
- Swapping Platform with no central point of weakness – no need for trusted custody for swaps
- Testnet was successful (with over 1,300,000 BTC volume) with Mainnet launching shortly
- Skybridge exhibits complementary synergies with Binance DEX (with praises from CZ Binance) as opposed to projects that manifest direct competition
- Staking mechanics with a well-thought-out incentive mechanism for the team to accelerate the production of the platform
- **Strong deal structure with low hardcap (\$0.2m), and low initial market cap (\$0.75m).**
- **Significant upside potential given similar projects have outperformed over the past 3 months; Rune (+390% ATH), SNX (+450% ATH)**
- The non-plagiarism audit indicates no distinct similarities with analogous projects, with source codes being developed from scratch

Weaknesses

- Lean team structure could impede project developments
- Roadmap could have more businesses & marketing plans, which might cause concern for garnering adoption
- The project currently has a limited number of partnerships relative to its peers

Opportunities

Unlocking the potential value of DEXes and Swapping platforms – According to Defi Pulse, the total USD value locked in DEXes (Uniswap, Bancor, Kyber) has increased over 9x in the past one year from \$10m to over \$90m. This trend remains intact over the last 90d going into 2020, where locked value (USD) doubled from \$30m to \$70m. In addition, total locked value (USD) for WBTC (a wrapped BTC on Ethereum chain backed 1:1 by Bitcoin) has increased ~100% in 2020 alone, emphasising the significance of user demand for Bitcoin on alternative blockchains.

Our analysts are optimistic that this trend will continue its upward trajectory on the back of a bullish macro outlook on bitcoin in 2020. Furthermore, there is a notable mismatch between DEXes/swapping platforms and other segments in Defi, such as Lending and Payments, where DEXes represents only 6.5% of the entire Defi space versus 79% for lending. Therefore, given the synchronous growth effects, we believe the gap between both sectors will close over time, presenting a potential opportunity for DEXes/Swapping platforms to capture market share in this space.

Threats

- Similar to other swapping platforms, pegging assets require the bridge to be stable, any interference on either side could (e.g. a mass exit on one chain) could pose a high risk to the network



Source: CMC

Total Value Locked (USD) in DEXes



Source: Defi Pulse

Total Value Locked (USD) in Uniswap



Source: Defi Pulse

Total Value Locked (USD) in Kyber



Source: Defi Pulse

Total Value Locked (USD) in WBTC



Source: Defi Pulse

Conclusion

In conclusion, Pico Research presents a **'Buy'** with **4.5 stars** rating on Swingby Network. The project seeks to provide a unique solution to the inefficiencies surrounding cross-chain interoperability. By creating both Skybridge and Trusted Cloud, the team will enable cross-chain swapping features to users of Bitcoin without the need for a centralised custodian.

Overall, for the reasons listed, Pico highlights several reasons that affirm our rating:

- A simple yet novel platform that solves an immediate need for cross-chain operability and leveraging on features that the native chain does not offer, especially for the Bitcoin network
- The project is well-positioned to take advantage of the rise of DEXes and swapping platforms that will create additional value for the Defi sector
- Well structured staking mechanics to incentivise early adopters as well as investors looking to generate additional returns
- Great deal structure with low hardcap for public sale (\$0.2m), and low market cap (\$0.75m) based on an initial circulating supply could lead to a favourable upside potential

Notwithstanding the above, Pico acknowledges the uncertainty that was circulating with regards to the reprinting of graphics and code. However, the Swingby team has come out to rectify their mistake through a blog post and also conducted a non-plagiarism audit report, making it clear that their source codes and whitepaper documentation have not been copied. This provided our analysts with added confidence that Swingby has a unique solution in creating an inter-blockchain swapping platform.

Overall, in light of the preceding, Pico Research affirms a **'Buy'** rating on Swingby.

Appendix

List of 35 ECDSA-type Chains

Network	Name	Parent Coin	Transaction Type	Signing Algo	Curve
ARK	Ark	ARK		ECDSA	secp256k1
ATOM	ATOM	ATOM		ECDSA	secp256k1
BCHABC	Bitcoin Cash ABC	BTC	UTXO	ECDSA	secp256k1
BCHSV	Bitcoin Cash SV	BTC	UTXO	ECDSA	secp256k1
BNB	BNB	BNB	account	ECDSA	secp256k1
BTC	Bitcoin	BTC	UTXO	ECDSA	secp256k1
CMT	CyberMiles	ETH	account	ECDSA	secp256k1
DASH	Dash	DASH	UTXO	ECDSA	secp256k1
DCR	Decred	DCR		EdDSA/ECDSA	ed25519/secp256k1
DOGE	dogecoin	DOGE		ECDSA	secp256k1
EOS	EOS	EOS	account	ECDSA	secp256k1
ETC	Ethereum Classic	ETH	account	ECDSA	secp256k1
ETH	ETH	ETH	account	ECDSA	secp256k1
ETH_PARITY	Ethereum	ETH	account		secp256k1
GO	GoChain	ETH	account	ECDSA	secp256k1
GRS	Groestlcoin	GRS		ECDSA	secp256k1
ICX	ICON	ICX		ECDSA	secp256k1/secp256r1
IOST	Internet of Services	IOST		EdDSA/ECDSA	ed25519/secp256k1
LTC	Litecoin	LTC	UTXO	ECDSA	secp256k1
NAS	Nebulas	NAS		ECDSA	secp256k1
NEO	NEO	NEO	account	ECDSA	secp256k1
ONT	Ontology	NEO	account	ECDSA	nist256p1
POA	POA Network	ETH	account	ECDSA	secp256k1
QTUM	Qtum	QTUM		ECDSA	secp256k1
RVN	Ravencoin	RVN		ECDSA	secp256k1
STEEM	Steem	STEEM		ECDSA	secp256k1
THETA	Theta Token	ETH	account	ECDSA	secp256k1
TOMO	TomoChain	ETH	account	ECDSA	secp256k1
TRX	TRON	TRX	UTXO	ECDSA	secp256k1
VET	VeChain	ETH	account	ECDSA	secp256k1
VIA	Viacoin	VIA		ECDSA	secp256k1
WAN	Wanchain	ETH	account	ECDSA	secp256k1
XRP	Ripple	XRP	account	ECDSA	secp256k1
XZC	Zcoin	XZC		ECDSA	secp256k1
ZEC	Zcash	ZEC	UTXO	ECDSA, zk-SNARKs*	secp256k1, Jubjub*

About the Analyst

Lennard specializes in fundamental and technical analysis in digital asset investments. He became acquainted with blockchain, cryptocurrency and ICOs in 2016, and recently decided to take a meaningful step away from traditional banking to join this industry. Previously, Lennard spent 3 years with an investment bank in Forex and Debt Capital Markets. Prior to this, he also had entrepreneurship experience working with an e-commerce startup and a local social enterprise. Lennard completed the CFA program and graduated with a master's degree in Applied Finance. He is fluent in English, Chinese with a basic in Korean.

Ratings Definition

Monitor – Continue observation until clarity of information is provided

Sell/ Avoid – Investment is associated with high risk of losing capital

Hold/ Neutral – To maintain current levels of position until the next updated release

Spec Buy – A speculative opportunity for investors with higher risk tolerance

Buy – A high conviction buying opportunity

Disclaimer

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