

BAYFRONT LAW

in alliance with Nishimura & Asahi (Singapore) LLP
Company Registration No. 201723356G

VIA E-MAIL

PRIVILEGED AND CONFIDENTIAL

DATE: 15 November 2021
TO: **KORTHO TECHNOLOGY FOUNDATION LTD.**
FROM: Bayfront Law LLC
WRITER: clarence.guo@bayfrontlaw.sg
SUBJECT: Opinion relating to Kortho Technology Foundation Ltd. (the **Company**) – KTO

1. Background and scope of advice

- 1.1 We refer to the proposed token issuance project (**Issuance**) to be conducted by the Company (and/or its affiliates). We are informed that pursuant to the Issuance, a new digital asset (**KTO**) will be generated and distributed, which is intended to be utilised on a platform developed and operated by the Company and/or its affiliates. Further details in relation to the background are set out in Annex A.
- 1.2 We have been instructed to provide this advice solely on the question of whether the design of KTO would cause it to be considered:
- (a) a "capital markets product" for the purpose of the Securities and Futures Act (Chapter 289 of Singapore) (the **SFA**);
 - (b) a "digital payment token" under the Payment Services Act 2019 (No. 2 of 2019) (the **PS Act**); or
 - (c) "e-money" under the PS Act.
- 1.3 For the purpose of this advice, we have been provided with the draft whitepaper, which is a non-binding document that sets out, *inter alia*, the proposed design of KTO to be issued. We are informed that the version of the whitepaper which will be finally released will be in substantially the same form as that provided in Annex C. We have relied only on the relevant facts, documents and instructions as informed to us in Annex A and Annex C (and insofar as they are in the English language). We have not considered any other issues, other than that as set out at paragraph 1.2 above, and in particular we will not be aware of the status of any future rights or features that may be added to or removed from KTO, and have also not conducted any independent enquiries or due diligence in respect of the Issuance or the operation of the Company (or its affiliates). This advice is based on Singapore law as at 9.00 am of the date hereof, is limited to the matters expressly specified herein and must not be read as extending, by implication or otherwise, to any other matter.
- 1.4 We have not examined or expressed any views on, nor will we be deemed to have examined or expressed any views on, any regulatory requirements, restrictions or prohibitions (a) under the laws of any other jurisdictions that may be applicable, (b) in connection with the Company's (or its affiliates') activities, the network/ecosystem, or the circumstances or conduct of the Issuance or the commercial aspects of any of the foregoing, or (c) any other ancillary digital asset, platform token, synthetic token, derivative token, wrapped token, staking token, NFT or asset-backed token, or any fractions thereof, which may be issued/created in connection with the operation of KorthoChain. Where any reference or opinion is related to the foregoing or expressed beyond the jurisdiction of Singapore, we accordingly disclaim reliance thereupon and any obligation arising therefrom, and you are advised to obtain legal advice regarding these

issues as applicable. This advice should be read together with the annexes appended hereto, which form an integral part of this advice and will be governed by, and construed in accordance with, Singapore law.

- 1.5 Please also note that our advice does not cover any other areas of law such as tax law, privacy and data protection laws, issues relating to the licensing of information technology, intellectual property, money laundering and countering the financing of terrorism, or regulatory advice (save as mentioned at paragraph 2 below), and we do not assume any responsibility to update this advice after the date hereof.
- 1.6 The views expressed in this advice are solely our views as to the issues expressly dealt with in this advice. Our advice does not constitute an assurance, guarantee or warranty that the Singapore regulatory authorities or Singapore Courts would necessarily agree with the views stated in this advice or that any challenge would not be made or would necessarily fail. This advice is not intended to be used, and cannot be used, for the purpose of avoiding penalties that may be imposed by any applicable law.
- 1.7 Further, it is assumed that (a) KTO and KorthoChain would meet their description in this advice and in the whitepaper, (b) there will be no material variations in KTO or KorthoChain from their descriptions therein which would affect our advice, (c) all services/products offered on KorthoChain (which is still in the development stage and the final features are under review) will not be illegal and the necessary approvals and licences will be held by the Company, its relevant operating entities or affiliates in all applicable jurisdictions as necessary (in particular relating to the sale of tokens from any Singapore entity), (d) the Company will conduct all activities in accordance with good corporate governance principles (e) the Company has conducted the Issuance as described herein, and will not be undertaking any business or activities in Singapore which would result in it requiring to be approved, registered or otherwise regulated by the Monetary Authority of Singapore (the **MAS**) under the SFA or the Payment Services Act, or any other competent authority under any applicable law or regulation, and (f) any notifications that have to be provided to the relevant authorities will be undertaken as required.
- 1.8 As of the date hereof, to our knowledge there has been no court case nor any formal notice published by the MAS which directly address the issues raised in this advice, save for various releases, guidelines and papers. Accordingly, the MAS or a court may reach an alternative conclusion different from the one provided in this advice.

2. Advice

- 2.1 A "utility token" is not a defined term under Singapore law. Solely considering the design of KTO as set out in Annex A and Annex C, we are of the view that, in itself, the design of KTO:
 - (a) constitutes a digital payment token under the PS Act;
 - (b) does not constitute e-money under the PS Act;
 - (c) does not constitute a "debenture" under the SFA;
 - (d) does not constitute the operation of a collective investment scheme under the SFA; and
 - (e) accordingly would not cause KTO to be deemed a "security" or a "capital markets product" for the purpose of the SFA.

- 2.2 Our detailed analysis is set out in Annex B.

3. Benefit of advice

Our advice herein is addressed to yourselves solely for your benefit, and may be disclosed exclusively for the purpose of listing KTO on a digital asset exchange, on a non-reliance basis. It is not to be relied upon by any other person or quoted or referred to in any public document

or filed with any governmental authority or agency or disclosed in any way to any other person without our prior written consent.

Yours sincerely

Bayfront Law

BAYFRONT LAW LLC

Encl: Annexes A to C

Annex A

Background

1. We understand that the Company is working on developing the "KorthoChain" blockchain platform (**KorthoChain**), which is described as a brand new blockchain solution for data encryption and desensitization, transaction information storage and data confirmation in the Internet field.
2. KorthoChain is based on the POW+POS consensus algorithm, which has high fault tolerance, solves the problem of inconsistent block information in the network, and also greatly improves efficiency.
3. KorthoChain uses the decentralization of the blockchain, distributed access to the data- base and the token economy to promote the ecologicalization of data confirmation. This includes data information traceability, data on-chain, equity token incentives, etc. Data verification can be applied to various fields of the Internet and even the physical industry.
4. We are informed that KTO is designed to have the following functions within the ecosystem:
 - 4.1 KTO may only be utilised on KorthoChain as the medium of exchange for valuable services provided in the ecosystem on KorthoChain. It is not intended to be a medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt; nor is it designed or intended to be used by any person as payment for any goods or services whatsoever that are not exclusively provided by the issuer. For each exchange of services on KorthoChain, the costs are to be quantified in KTO and paid to KorthoChain and/or the other party providing the service.
 - 4.2 KTO would also function as the incentive which would be distributed to encourage users to exert efforts towards contribution and participation in the ecosystem on KorthoChain. Further, it is mentioned that additional KTO will be awarded to a user based only on its actual usage, activity and efforts made on KorthoChain (and/or proportionate to the frequency and volume of transactions), so users of KorthoChain and/or holders of KTO which did not actively participate will not receive any KTO incentives.
 - 4.3 KorthoChain itself is simply a blockchain protocol which, by design, does not own or run any third-party computing/storage servers. It relies on an open, decentralised network of multi-node confirmation backup mechanism in order to ensure security and prevent double-spending, making it extremely safe, transparent and queryable, thereby safeguarding the rights and interests of participants. Accordingly, third-party computing/bandwidth/storage resources are required for processing transactions and running applications on KorthoChain, as well as the validation and verification of additional blocks / information on the blockchain. Providers of these services / resources would require payment for the consumption of these resources (i.e. "mining" on KorthoChain) to maintain network integrity, and KTO will be used as the native currency to quantify and pay the costs of the consumed computing/bandwidth/storage resources.
 - 4.4 KTO is not intended to constitute securities in Singapore or any relevant jurisdiction, and will not entitle token holders to any promise of dividends, revenue, fees, profits or investment returns.
 - 4.5 KTO is non-refundable and cannot be exchanged with the Company or any affiliate for cash (or its equivalent value in any other digital asset) or any payment obligation by the Company or any affiliate.
 - 4.6 KTO does not represent any shareholding, participation, right, title, or interest in the Company or any other company, enterprise or undertaking.

- 4.7 KTO is not for speculative investment, and (although KTO may eventually be traded on digital asset exchanges), there is no guarantee or representation of value or liquidity for KTO.
- 4.8 KTO is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment.
- 4.9 There does not appear to be any buy-back or destruction mechanism planned for KTO.
5. KorthoChain does not facilitate the transmission of fiat currency on behalf of its users or other third parties, nor does it assist with the conversion of KTO to fiat currency.
6. The documents indicate that any conversion of KTO to fiat currency will be done on third party digital asset exchanges. It is mentioned that to the extent a secondary market or exchange for trading KTO does develop, it would be run and operated wholly independently of the Company (or its affiliates), the distribution of KTO and KorthoChain. The Company will not create such secondary markets nor will it act as an exchange for KTO.
7. KTO does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does the Company or any other person make any representation or give any commitment as to its value).
8. The terms and conditions for distribution of KTO (including any information or document directly or indirectly linked to the whitepaper or the project website or social media channels, and which may be incorporated into said terms and conditions for distribution of KTO) are consistent with and would not include any substantive modifications to the foregoing functionality for either KTO or KorthoChain.

Annex B

Analysis

1. There is no specific law or regulation in Singapore that provides specifically for regulation of digital assets or digital tokens as such in relation to Singapore securities law. This has been confirmed in a statement (the **August 2017 Statement**) issued on 1 August 2017 ("MAS clarifies regulatory position on the offer of digital tokens in Singapore") by the MAS.
2. However, this cannot be taken to mean that digital assets and digital tokens are wholly unregulated in Singapore. As noted in the August 2017 Statement, digital tokens have evolved beyond just being a digital token, and depending on the features of a particular digital token, they may be subject to re-characterisation under Singapore's laws and consequently be subject to various regulatory regimes in Singapore, in particular under the SFA.

Meaning of "capital markets products" and "securities"

3. The SFA sets out at section 2(1) a definition "capital markets products" as follows:

"capital markets products" means any securities, units in a collective investment scheme, derivatives contracts, spot foreign exchange contracts for the purposes of leveraged foreign exchange trading, and such other products as the [MAS] may prescribe as capital markets products;"
4. Section 2(1) further defines "securities" as follows:

"securities" means:
 - (a) *shares, units in a business trust or any instrument conferring or representing a legal or beneficial ownership interest in a corporation, partnership or limited liability partnership;*
 - (b) *debentures; or*
 - (c) *any other product or class of products as may be prescribed,*
but does not include:
 - (i) *any unit of a collective investment scheme;*
 - (ii) *any bill of exchange;*
 - (iii) *any certificate of deposit issued by a bank or finance company, whether situated in Singapore or elsewhere; or*
 - (iv) *such other product or class of products as may be prescribed."*
5. Pursuant to the Securities and Futures (Prescribed Securities) Regulations 2012, various real estate investment trust (REIT) related securities have also been prescribed as "securities" (which do not appear relevant for the purposes of this advice).
6. The definitions of the terms "shares", "debenture", "derivatives contract" and "collective investment scheme", which are referred to in the definitions of "securities", are relevant for the purpose of this analysis. The other categories of instruments / relationships which would be categorised as securities (and hence capital markets products), such as spot foreign exchange

contracts, units in a business trust, or interests in partnerships, are not relevant for the purpose of this analysis and KTO would not constitute any of these.

Meaning of "debenture"

7. Section 2(1) of the SFA provides that:

""debenture" includes:

- (a) *any debenture stock, bond, note and any other debt securities issued by or proposed to be issued by a corporation or any other entity, whether constituting a charge or not, on the assets of the issuer;*
- (b) *any debenture stock, bond, note and any other debt securities issued by or proposed to be issued by a trustee-manager of a business trust in its capacity as trustee-manager of the business trust, or a trustee of a real estate investment trust in its capacity as trustee of the real estate investment trust, whether constituting a charge or not, on the assets of the business trust or real estate investment trust; or*
- (c) *such other product or class of products as the Authority may prescribe,*

but does not include:

- (i) *a cheque, letter of credit, order for the payment of money or bill of exchange; or*
- (ii) *for the purposes of the application of this definition to a provision of [the SFA] in respect of which any regulations made thereunder provide that the word "debenture" does not include a prescribed document or a document included in a prescribed class of documents, that document or a document included in that class of documents, as the case may be;"*

8. In addition, it should also be noted that under section 239(3) of the SFA, it is stated that:

"For the purposes of this Division [i.e. Division 1 of Part XIII]:

- (a) *any invitation to a person to deposit money with or to lend money to an entity shall be deemed to be an offer of debentures of the entity; and*
- (b) *any document that is issued or intended or required to be issued by an entity acknowledging or evidencing or constituting an acknowledgment of the indebtedness of the entity in respect of any money that is or may be deposited with or lent to the entity in response to such an invitation shall be deemed to be a debenture."*

9. Debentures have also been judicially defined to mean a document which either creates a debt or acknowledges it and may include any obligation, covenant, undertaking or guarantee to pay, or any acknowledgement thereof. It is key to note, however, that not all company debts qualify as debentures.

Meaning of "derivatives contract"

10. Under the SFA, "derivatives contract" means:

- "(a) *any contract or arrangement under which —*
 - (i) *a party to the contract or arrangement is required to, or may be required to, discharge all or any of its obligations under the contract or arrangement at some future time; and*

- (ii) *the value of the contract or arrangement is determined (whether directly or indirectly, or whether wholly or in part) by reference to, is derived from, or varies by reference to, either of the following:*
 - (A) *the value or amount of one or more underlying things;*
 - (B) *fluctuations in the values or amounts of one or more underlying things; or*
- (b) *any contract or arrangement that is, or that belongs to a class of contracts or arrangements that is, prescribed to be a derivatives contract..."*

11. The MAS has, in the Frequently Asked Questions on Product Definitions, mentioned at A7 that: "a derivatives contract falls within the ambit of the [SFA] if its reference asset is a security, a unit in a collective investment scheme ("CIS"), a currency or currency index, an interest rate, a commodity and/or the credit of any person (collectively referred to as "underlying thing"). A derivatives contract whose reference asset is not any of the underlying thing will not be considered a derivatives contract under the [SFA], and thus, any person carrying on business in dealing in such derivatives contracts (e.g. weather derivatives) will not be required to hold a capital markets services licence".

Meaning of "collective investment scheme"

12. At present, the term "collective investment scheme" under the SFA means:

12.1 an arrangement in respect of any property:

- (a) under which the participants do not have day-to-day control over the management of the property, whether or not the participants have the right to be consulted or to give directions in respect of such management;
- (b) under which either or both of the following characteristics are present:
 - (i) the property is managed as a whole by or on behalf of a manager;
 - (ii) the contributions of the participants, and the profits or income out of which payments are to be made to the participants, are pooled; and
- (c) under which either or both of the following characteristics are present:
 - (i) the effect of the arrangement is to enable the participants (whether by acquiring any right, interest, title or benefit in the property or any part of the property or otherwise):
 - (A) to participate in or receive profits, income, or other payments or returns arising from the acquisition, holding, management, disposal, exercise, redemption or expiry of, any right, interest, title or benefit in the property or any part of the property; or (B) to receive sums paid out of such profits, income, or other payments or returns;
 - (ii) the purpose, purported purpose or purported effect of the arrangement is to enable the participants (whether by acquiring any right, interest, title or benefit in the property or any part of the property or otherwise):
 - (A) to participate in or receive profits, income, or other payments or returns arising from the acquisition, holding, management, disposal, exercise, redemption or expiry of, any right, interest, title or benefit in the property or any part of the property; or (B) to receive sums paid out of such profits, income, or other payments or returns,

whether or not: (AA) the arrangement provides for the participants to receive any benefit other than those set out in sub-paragraph 12.1(c)(ii)(A) or 12.1(c)(ii)(B) in the event that the purpose, purported purpose or purported effect is not realised; or (BB) the purpose, purported purpose or purported effect is realised; or

- 12.2 an arrangement which is an arrangement, or is of a class or description of arrangements, specified by the Authority as a collective investment scheme by notice published in the Gazette.
- 13.** The following are not considered collective investment schemes under the SFA (each an Excluded Arrangement):
- 13.1 an arrangement operated by a person otherwise than by way of business;
- 13.2 an arrangement under which each of the participants carries on a business other than investment business and enters into the arrangement solely incidental to that other business;
- 13.3 an arrangement under which each of the participants is a related corporation of the manager;
- 13.4 an arrangement made by or on behalf of an entity solely for the benefit of persons, each of whom is:
- (a) a bona fide director or equivalent person, a former director or equivalent person, a consultant, an adviser, an employee or a former employee of that entity or, where that entity is a corporation, a related corporation of that entity; or
 - (b) a spouse, widow or widower, or a child, adopted child or step-child below the age of 18 years, of such director or equivalent person, former director or equivalent person, employee or former employee;
- 13.5 an arrangement made by or on behalf of 2 or more entities solely for the benefit of persons, each of whom is:
- (a) a bona fide director or equivalent person, a former director or equivalent person, a consultant, an adviser, an employee or a former employee of any of those entities or, where any of those entities is a corporation, a related corporation of the entity which is a corporation; or
 - (b) a spouse, widow or widower, or a child, adopted child or step-child below the age of 18 years, of such director or equivalent person, former director or equivalent person, employee or former employee;
- 13.6 a franchise;
- 13.7 an arrangement under which money received by an advocate and solicitor from his client, whether as a stakeholder or otherwise, acting in his professional capacity in the ordinary course of his practice, or under which money is received by a statutory body as a stakeholder in the carrying out of its statutory functions;
- 13.8 an arrangement made by any co-operative society registered under the Co-operative Societies Act (Chapter 62 of Singapore) in accordance with the objects thereof solely for the benefit of its members;
- 13.9 an arrangement made for the purposes of any chit fund permitted to operate under the Chit Funds Act (Chapter 39 of Singapore);
- 13.10 an arrangement arising out of a life policy within the meaning of the Insurance Act (Chapter 142 of Singapore);
- 13.11 a closed-end fund (see below) constituted either as an entity or a trust;
- 13.12 an arrangement under which the whole amount of each participant's contribution is a deposit as defined in section 4B of the Banking Act (Chapter 19 of Singapore);

- 13.13 an arrangement of which —
- (a) the predominant purpose is to enable the participants to share in the use or enjoyment of the property or to make its use or enjoyment available gratuitously to others; and
 - (b) the property does not consist of any of the following:
 - (i) any currency of any country or territory;
 - (ii) any capital markets products;
 - (iii) any policy as defined in the First Schedule to the Insurance Act (Chapter 142 of Singapore);
 - (iv) any deposit as defined in section 4B of the Banking Act (Chapter 19 of Singapore);
 - (v) any credit facilities as defined in section 2(1) of the Banking Act (Chapter 19 of Singapore);
- 13.14 an arrangement which is an arrangement, or is of a class or description of arrangements, specified by the Authority as not constituting a collective investment scheme by notice published in the Gazette.
14. A "closed-end fund", as referred to above, means an arrangement referred to in sub-paragraphs 12.1 or 12.2 in the definition of "collective investment scheme" in paragraph 12 above, under which units that are issued are exclusively or primarily non-redeemable at the election of the holders of units.

Analysis

15. At the outset, it is worthwhile to note that it does not appear to us that the design of KTO, in itself (as described in Annex A), results in any stocks or shares in the Company or its affiliates being issued or subscribed for.
16. Besides the statutory provisions, statements made by the MAS in relation to the definitions of "debentures", "collective investment schemes" and "digital tokens" are instructive.
17. In the August 2017 Statement, the MAS observed that:

"...the function of digital tokens has evolved beyond just being a virtual currency. For example, digital tokens may represent ownership or a security interest over an issuer's assets or property. Such tokens may therefore be considered an offer of shares or units in a collective investment scheme [including under the revised definition of a collective investment scheme proposed in the Enhanced Safeguards Consultation Paper] under the SFA. Digital tokens may also represent a debt owed by an issuer and be considered a debenture under the SFA." (emphasis added)

Further, in "A Guide to Digital Token Offerings" (last updated 26 May 2020) (the **Digital Token Guide**), the MAS has stated that offers or issues of digital tokens may be regulated by the MAS if the digital tokens are capital markets products, citing the following as (non-exhaustive) examples of capital markets products that a digital token may constitute:

- (a) a share, where it confers or represents ownership interest in a corporation, represents liability of the token holder in the corporation, and represents mutual covenants with other token holders in the corporation inter se;
- (b) a debenture, where it constitutes or evidences the indebtedness of the issuer of the digital token in respect of any money that is or may be lent to the issuer by a token holder; or
- (c) a unit in a collective investment scheme, where it represents a right or interest in a collective investment scheme, or an option to acquire a right or interest in a CIS.

18. In the "Consultation Paper on Proposals to Enhance Regulatory Safeguards for Investors in the Capital Markets" issued by the MAS dated 21 July 2014 (the **Enhanced Safeguards Consultation Paper**), the MAS described debentures as:

*"2.1 Debentures are debt securities regulated under the SFA. Broadly, debentures are **instruments representing indebtedness**. These are **capital-raising instruments**, under which the **debenture issuer offers to pay interest in lieu of money borrowed for a certain period**. These may be:*

- (i) unsecured – backed by general creditworthiness of the debenture issuer; or*
- (ii) secured – backed by assets, which the debenture holder would have legal claim to if the issuer defaults on its payment obligations under the debenture. Examples include asset-backed securities and collateralised debt obligations." (emphasis added).*

19. In the Enhanced Safeguards Consultation Paper, the MAS contrasted debentures with buy-back arrangements, in particular, of non-financial assets, which are considered normal economic transactions, entered into in the ordinary course of business, examples of which include arrangements allowing consumers to trade-in products after use for a portion of the initial purchase price, or where the purchaser has the right to sell the product back to the seller at the prevailing market price in future.

20. The above was in the context of the (then proposed) regulation of buy-back arrangements involving precious metals (gold, silver and platinum). In its September 2015 response to the Enhanced Safeguards Consultation Paper, the MAS announced that the regulatory regime for debentures under the SFA (and Financial Advisers Act, Cap 110) would extend to arrangements which display the following characteristics as debentures:

20.1 Buy-back structure – Party A purchases gold, silver or platinum ("**precious metal**") from Party B for an agreed sum of money or money's worth, with Party B being under an obligation to re-purchase the precious metal back from Party A at a future time; and

20.2 Debenture effect – The purpose or effect of the arrangement is to enable Party A to receive a "financial benefit" from Party B. The main risk that Party A is exposed to is the credit risk of Party B, and not fluctuations in market value of the asset.

21. As to the requirement and interpretation of "financial benefit", it was stated in the Enhanced Safeguards Consultation Paper that the "right to receipt of a financial benefit **must be agreed upon at the point in time that the parties enter into the arrangement, although the actual amount received may vary according to pre-determined factors** [including where the pre-determined factors move against Party A such that at the end of the transaction, Party A is in a net financial loss position]" (emphasis added). Examples provided by the MAS of commercial transactions where there would not be deemed to be a financial benefit would include trading contracts, storage contracts, consignment arrangements and sale and lease-back arrangements, whereas there would be a financial benefit where the effective re-purchase price that Party B agreed to pay for buy-back at the time the arrangement is entered into is higher than the initial purchase price that Party A paid for the asset.

22. The SFA refers to section 4(1) of the Companies Act (Chapter 50 of Singapore) in its definition of "share", namely being "share in the share capital of a corporation and includes stock except where a distinction between stocks and shares is expressed or implied". Typically, a share may be understood as a chose in action that gives its owner, the shareholder, a bundle of rights against the company that issued said share, and one of the most fundamental rights is the right to vote in affairs of the company. It has also been judicially noted that "a share is the interest of a shareholder in the company measured by a sum of money, for the purpose of liability in the first place, and of interest in the second, but also consisting of a series of mutual covenants entered into by all the shareholders inter se in accordance with s 16 of the Companies Act, 1862. The contract contained in the articles of association is one of the original incidents of the

share. A share is not a sum of money settled in the way suggested, but is an interest measured by a sum of money and made up of various rights contained in the contract, including the right to a sum of money of a more or less amount."

- 23.** In this regard, it is expressly stated that KTO does not represent any shareholding, participation, right, title, or interest in the Company or any other company, enterprise or undertaking. Once issued, it does not appear that holders of KTO incur any liability to the Company (or any other company, enterprise or undertaking), nor do they enter into mutual covenants, or agree to rights and obligations, with other KTO holders inter se. Consequently, it is unlikely that there would be any dealing in "securities" in the form of stocks or shares arising solely out of the design of KTO in itself.
- 24.** As to whether KTO may be considered to be a debenture, KTO does not appear to be a "debenture" under the SFA for the following reasons:
 - 24.1 in order for an instrument to be deemed a debenture some element of indebtedness is required, but this is not present in the material provided for review;
 - 24.2 KTO is non-refundable and KTO cannot be exchanged for cash (or its equivalent value in any other digital asset) or any payment obligation by the Company or any affiliate;
 - 24.3 KTO is not a loan to the Company or any of its affiliates and there is no expectation of profit;
 - 24.4 KTO is not intended to represent a debt owed by the Company or any of its affiliates (and in this regard there does not appear to be any payment obligation on the part of the issuer, payment of coupon and/or invitation to deposit money with or to lend money to the Company or any of its affiliates);
 - 24.5 KTO may have no value and there is no guarantee or representation of value or liquidity for KTO; and
 - 24.6 KTO may only be utilised on Korthochain as a medium of exchange for valuable services provided in the ecosystem on Korthochain, and provide economic incentives which will encourage users to contribute to and participate in the ecosystem on Korthochain (e.g. KTO will be paid to incentivise users to participate in network security).
- 25.** For completeness, we would mention that KTO does not appear to constitute a buy-back arrangement (which inherently carries a higher risk of inviting regulation under Singapore securities laws for the reasons described at paragraphs 19 to 21 above) as KTO is non-refundable.
- 26.** From the whitepaper provided to us for review, KTO does not appear to reference any underlying asset or any underlying thing (but rather it is a useable digital token with certain prescribed functions); accordingly it is also unlikely that KTO will be construed as a "derivatives contract".

Analysis of the token issuer's activity under the definition of "collective investment scheme"

- 27.** In relation to collective investment schemes, in the Frequently Asked Questions Specific to Collective Investment Schemes issued by the MAS (the **CIS FAQs**) a collective investment scheme is an arrangement where money from investors is pooled together with a view to deriving profits or income from the scheme. The scheme may invest in all kinds of assets, be they financial, real estate, precious metals or commodities. Whether or not exotic schemes (such as commodity investment schemes and schemes which involve digital assets or some other digital token) fall within the scope of that definition depends on the structure of each scheme. Where money invested in the scheme and profits or income from it are pooled, the scheme would be subject to the MAS' approval process. If a commodity is sold directly and separately to individuals, such sales would not be subject to any regulation. Schemes whose

objectives are not to generate profit or income but for consumption (e.g. time-sharing schemes and memberships in golf or country clubs) would not fall within the regulatory scope of collective investment schemes under the SFA.

In the Enhanced Safeguards Consultation Paper, the MAS further mentioned that it:

"...has observed a number of arrangements offered to retail investors that fall out of the statutory definition of a CIS [i.e. collective investment scheme], simply by offering investors direct interests in underlying physical assets. This is in spite of an arrangement providing that while investors obtain legal title of the asset, they will cede day-to-day control over management of their property to the scheme operator to be managed collectively with assets of other scheme participants, for the purpose of enabling them to participate in profits of the scheme (collectively-managed investment schemes).

The key distinguishing characteristic of such schemes were that investors' contributions are not initially pooled. Apart from this, such collectively-managed investment schemes do not differ from regulated CIS..."

In this regard, MAS has also announced that the intention is to extend the scope of collective investment schemes to include schemes which are in substance similar to traditional regulated investment funds but do not pool investor's contributions.

28. Under the definition of "collective investment scheme", the "management" limb is an alternative to the "pooling" limb. The two limbs are to be assessed independently of each other, and the absence of the pooling of contributions or profits will not preclude a finding that there is management as a whole. An arrangement would fall outside the scope of regulation if the factual matrix indicates that (a) there is no initial pooling of assets, or (b) there is no expectation of deriving profits or income from the scheme.
29. It should also be noted that the MAS has issued the "Response to Feedback Received – Proposals to Enhance Regulatory Safeguards for Investors in the Capital Markets" dated 22 September 2015 (the **Response to the Enhanced Safeguards Consultation Paper**). This is noteworthy because of its discussion of the meanings of the "management" and "control" limbs found in the definition of "collective investment scheme", which may be summarised as follows:
 - 29.1 in relation to the "management" limb, whether there is management "as a whole" will depend on the investment objectives of the arrangements and the collective or individual nature of the arrangements made in order to produce the intended profits. Indications of whether there is collective management appear to be:
 - (a) whether the scheme operator is likely to look after the essential profit-generating activity under the instructions of, or at least in consultation with, individual owner/investors, or whether it may do so without having regard to individual investors' interests or preferences; and/or
 - (b) whether management on an individual basis is likely to be impracticable – e.g. even where returns are generated from ownership rights to specific property, the returns are generated as a result of the operators' management of activities collectively on the property as a whole;
 - 29.2 in relation to the "control" limb, the MAS is of the view that for investors to be considered as having day-to-day control, they should have direct and on-going power to decide on operational matters relating to management of the scheme property. The greater the extent of reliance on the particular scheme operator's professed expertise in managing the scheme property, the less likely it is that investors have effective day-to-day control. It is also significant that the MAS considers that "if expectations created between the parties in the arrangement are such that investors would not be involved in the day-to-day management of the property, having

contractual rights to be consulted on or to give the manager direction from time to time will **not** be considered as effective day-to-day control" (emphasis added); and

- 29.3 the MAS' intent is to extend capital markets regulatory safeguards to investors in arrangements which are in substance made and managed on a collective basis and hence pose similar risks to investors as traditional collective investment schemes. In particular, the MAS has noted that a number of such schemes previously avoided regulation as a collective investment scheme by offering investors direct legal title to individual assets (i.e. no pooling of investors' contributions). Nonetheless, investors' assets are effectively managed collectively by a third party such that their payoff is the same as the payoff that they would have obtained had their contributions been pooled.
30. From the various pronouncements from the MAS, it appears that the MAS is shifting its focus towards the fundamental purpose of transaction, and this should be analysed in detail. A "utility" token by itself, once issued, with genuine functionality and circulating on its network, would rarely be construed as a "security". In the present case, it does not appear that the design of KTO, in itself, would be construed as a collective investment scheme.
31. For the following reasons, the management and control limbs of the definition of a collective investment scheme are not fulfilled:
- 31.1 there are no contributions or funds being "managed" by any party for the purpose of generating returns or other benefits (pooled or otherwise) to be paid to KTO holders;
- 31.2 the whitepaper states that none of the Company and/or the team members shall be responsible for or liable for the value or liquidity of KTO;
- 31.3 we understand that there is no promise by the Company or any of its affiliates to pool, manage any asset and/or return any assets to project participants;
- 31.4 there does not appear to be any economic benefit, beneficial interest or legal title conferred on token holders over any property, and KTO will not entitle token holders to any promise of dividends, fees, revenue, profits or investment returns;
- 31.5 the nature of digital tokens is that they are inherently transferable to other parties, and the mere fact (or even any hope) that KTO may be resold at a price that is potentially higher than the original purchase price does not change the fact that the intention and goal of the token distribution is so that KTO can be utilised by users. The MAS has also acknowledged in the Digital Token Guide that the ability for a digital token to be traded on the secondary market alone does not result in a digital token being construed as capital markets products under the SFA. In this regard, users are required to acknowledge that they are acquiring KTO to participate in KorthoChain and to obtain services on the ecosystem thereon;
- 31.6 holders of KTO have control over how to manage their KTO held, whether for participation in KorthoChain and acquiring various services/products thereon, or by selling or trading KTO in a secondary market, or even simply holding and doing nothing with their KTO;
- 31.7 even if KTO holders are able to obtain additional KTO, this would not occur through the action or activities of any person or manager, but only through that token holder's participation in the ecosystem on KorthoChain (e.g. to participate in network security);
- 31.8 given that a KTO holder is required to perform work each time before being entitled to the KTO incentives as described in Annex A, it does not appear to us that the KTO incentives would constitute any dividend, profit or investment return; and
- 31.9 further, it is mentioned that users of KorthoChain and/or holders of KTO which did not actively participate in KorthoChain will not receive any KTO incentives.

- 32.** Based on our understanding of the token issuer's activities relating solely to the Issuance for KTO set out in Annex A, it appears that the element of pooling of contributions and profits, which is a factor affecting whether an arrangement to fall within the definition of a collective investment scheme, is not present for the following reasons:
- 32.1 there is no promise of any profit or return back to any token holder (i.e. KTO is non-refundable and KTO cannot be exchanged for cash or any payment obligation); and
- 32.2 notwithstanding the distribution of KTO, token holders will have no economic or legal right over or beneficial interest in the assets of the Company or any of its affiliates after the token distribution.
- 33.** There is a potential residual risk that pursuant to the powers granted under section 2(1)(h) of the SFA, the MAS may prescribe digital assets / digital tokens to be "securities" for the purpose of the SFA. However, we would mention that as at the date hereof, there is no indication that the MAS intends to exercise its power to make such a declaration. Public statements released by the MAS have indicated that it would avoid taking such a broad-brush approach towards the regulation of digital assets / digital tokens.
- 34.** The key characteristic of a closed-end fund is that units in such a collective investment scheme are not redeemable at the option of the investor. Closed-end funds typically take the form of investments in the shares of an investment company (such that the investor may not realise its investment until the shares have been redeemed) – for such closed-end funds though, because shares of a company are involved, this may trigger prospectus requirements under the SFA's regime in respect of offers of shares or debentures. One further important requirement is that the closed-end fund must be constituted as an entity or trust in order to qualify as an Excluded Arrangement.
- 35.** It is unlikely that the investment arrangement offered (if applicable) may be deemed to be a closed-end fund because in the first place, for the reasons set out above, it is not likely that the design of KTO, in itself, will be considered the operation of a collective investment scheme.
- 36.** Considering the factors in their entirety, our view is that the design of KTO (as set out in Annex A), in itself, would not be considered the operation of a collective investment scheme, the management of which, or dealing of interests in which, would trigger an obligation to obtain a CMS licence.

Conclusion as to whether KTO would constitute a security under the SFA

- 37.** Further, we set out below certain characteristics displayed by financial products which would satisfy the definition of "securities":
- 37.1 the product provides the holder with ownership interest in a legal entity such as a private limited company or an unincorporated body such as a limited liability partnership;
- 37.2 the product provides the holder with a payment of interest;
- 37.3 the product provides the holder with an interest in underlying securities (including equity, shares or debentures);
- 37.4 the product provides the holder with a direct or indirect exposure to underlying profits and/or losses, or assets and/or liabilities;
- 37.5 the issuer (or any related company) has a legal obligation to repay the holder for his purchase of the product or the holder has a legal right to sell the product to the issuer (or any related company), such that the holder may potentially receive a "financial benefit"; or

37.6 the product has a feature that allows the holder to convert a product into another token with characteristics set out above or otherwise grants the holder an option to purchase securities.

From the information provided to us, KTO does not appear to exhibit any of these characteristics described in this paragraph 37.

38. For the various reasons set out above in this Annex B, the design of KTO would, on balance, not cause KTO to be deemed a "security" under section 2(1) of the SFA.

39. It is however important to note that even if KTO would not be considered a security by design, it may be considered a security in the manner in which it was distributed, described in marketing material, and/or how it is treated. Where KTO is eventually acquired by users for investment purposes, there is an increased risk that KTO will be considered a security.

Exemptions under the SFA

40. For completeness, we now turn to consider the various exemptions to CMS licensing available under the SFA.

41. While there is a general exemption available to financial institutions (e.g. banks) that are regulated by the MAS, specific exemptions also apply to certain categories of persons carrying on business in regulated activities.

42. Based on our understanding of the design of KTO (even if the Company or its affiliates were considered to be operating a collective investment scheme) the relevant entities at present would not qualify for any of these exemptions. In the context of an Issuance, the Company is unlikely to engage a financial institution to handle the Issuance and we understand that the Company has no plans to do so. Further, we believe that any such exemptions are not practical in the context of token distributions.

43. Presently, there are no specific exemptions or exclusions under the SFA for activities relating to digital assets or for companies dealing with digital assets (except to the extent that such activities do not fall within the scope of any of the regulated activities). It is unclear if any new exemptions will be introduced, but it is likely that it will be some time before such exemptions would come into effect (if at all).

Meaning of "digital payment token" and "e-money" under the PS Act

44. For the purpose of this advice, the two important definitions under the PS Act are the definition of "digital payment token" and "e-money". These are alternative categories under the PS Act and depending on its exact characteristics, a digital token may fall under either category (but not both).

45. A "digital payment token" is defined as any digital representation of value (other than an excluded digital representation of value) that:

45.1 is expressed as a unit;

45.2 is not denominated in any currency, and is not pegged by its issuer to any currency;

45.3 is, or is intended to be, a medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt;

45.4 can be transferred, stored or traded electronically; and

45.5 satisfies such other characteristics as the MAS may prescribe.

46. On the other hand, "e-money" is further defined as any electronically stored monetary value that:
- 46.1 is denominated in any currency, or pegged by its issuer to any currency;
 - 46.2 has been paid for in advance to enable the making of payment transactions through the use of a payment account;
 - 46.3 is accepted by a person other than its issuer; and
 - 46.4 represents a claim on its issuer,
- but does not include any deposit accepted in Singapore, from any person in Singapore.

Analysis under the definition of "digital payment token" and "e-money"

47. From the above definitions, we can observe that the key distinction between a digital payment token and e-money is that where the monetary value of the electronically stored amount in fiat currency cannot be determined without referring to some form of market mechanism, for example through the trading of the electronically stored monetary value on an exchange, such electronically stored amount is not e-money but may be a digital payment token.
48. It is critical to note that in the "Consultation paper on proposed regulatory approach for derivatives contracts on payment tokens" issued by the MAS dated 20 November 2019 (the **Token Derivatives Consultation Paper**), the MAS described (at Footnote 1) that there are three main types of digital tokens – securities tokens, payment tokens (in particular, the MAS has affirmed that bitcoin and ether are payment tokens) and utility tokens. Payment tokens do not include utility tokens which are used to access a good or service offered by the token issuer only. Further, in the Digital Token Guide, Case Study 1 mentioned that a token which is accepted only on a native platform and is not or is not intended to be, a medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt, would not be considered to be a payment token under the PS Act.
49. As such, most "stablecoins", such as USDT, USDC and GUSD would constitute "e-money" under the PS Act. These are denominated/pegged in USD, are paid for in advance, are accepted by a variety of vendors as payment for goods or services, and represent a claim on the underlying USD value.
50. KTO is primarily used as the native token on KorthoChain as a medium of exchange for platform interactions, for example to pay for usage fees or incentives for user engagement.
51. KTO is not denominated or pegged to any currency, is not paid for in advance to enable the making of payment transactions through the use of any payment account, and does not represent a claim against the issuer. This is in contrast to some of the other leading "stable tokens" in the industry, such as USDT.
52. In the Frequently Asked Questions (FAQs) on the Payment Services Act (updated 31 March 2021) (the **PS Act FAQs**), the MAS explained that one important distinction of "e-money" from digital payment tokens is the denomination / pegging aspect. Where the monetary value of the digital token cannot be determined without referring to some form of market mechanism, for example through the trading of the digital token on an exchange, then such digital token would not be viewed as "e-money".
53. Based on the foregoing, it does not appear that KTO would constitute "e-money" as there was no monies paid in advance to any issuer of KTO, and KTO does not represent a claim for any value against any entity. It is indicated that KTO is not intended to be a representation of money or electronic money. There is no inherent "value" or guarantee of the monetary value of KTO, nor any kind of buyback or repurchase mechanism, so the only way to ascertain the price of

KTO would be the price that third parties would be willing to purchase it for on the secondary market. Further, KTO is non-refundable and cannot be exchanged for cash (or its equivalent value in any other virtual currency) or any payment obligation by the Company or any affiliate.


54. While it appears that KTO would satisfy many of the elements for being characterised as a "digital payment token", the critical issue is whether it is a "medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt". The term "section of the public" under the PS Act is a fact-sensitive determination, so a group of individuals with a subsisting relationship with the service provider, or a group of individuals selected because of rational characteristics common to them may not be regarded as a section of the public per se. This determination depends on factors such as size of the group, nature of the service offered, and the significance of the particular characteristic that is common. Generally, a group of individuals selected with a certain degree of indiscriminability would likely be regarded as a section of the public. The PS Act FAQs has also provided an example where a token is accessible by individuals who do not subscribe to the services of the issuer, and is used by them as payment for goods and services that are not exclusively provided by the issuer, would be regarded as a medium of exchange accepted by a "section of the public".
55. Notwithstanding that KTO is "not intended to be a medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt" outside KorthChain, we understand that it is freely tradeable on various virtual currency exchanges, and may be exchanged and accessed in a peer-to-peer manner by users. KTO is not restricted to users of KorthChain, and it does not appear that holders of KTO may be characterised by any rational characteristics common to them.
56. Further, we note that where KTO is distributed as incentives to various actors interacting within the ecosystem; these are not paid to the issuer, but are instead paid to any user within the ecosystem/network which had participated or contributed (e.g. participating in network security). Once acquired by any party via a secondary exchange or otherwise, KTO may be used by the holder in a peer-to-peer manner to pay for any product or service offered by a third party who is unrelated to the issuer (and this is outside the control of the issuer). This is quite distinct from the example raised at Case Study 1 of the Guide to Digital Token Offerings, which indicates that utility tokens are used to access a good or service offered by the token issuer only.
57. In such situation, assuming that the MAS accepts our finding (for the reasons set out at paragraphs 55 and 56 above) that KTO is indeed a medium of exchange accepted by the public, or a section of the public, as payment for goods or services or for the discharge of a debt, our conclusion would then accordingly be that KTO constitutes a "digital payment token" under the PS Act.

Other considerations

58. The MAS has indicated that whilst certain digital tokens may not be within the regulatory purview of the MAS, the issuance of such tokens may nonetheless be subject to other legislation regarding anti-money laundering (AML) and counter-terrorism financing (CTF), and in particular the following:
 - 58.1 obligations to report suspicious transactions with the Suspicious Transaction Reporting Office, Commercial Affairs Department of the Singapore Police Force pursuant to the provisions of the Corruption, Drug Trafficking and Other Serious Crimes (Confiscation of Benefits) Act (Chapter 65A of Singapore); and
 - 58.2 prohibitions from dealing with or providing financial services to designated individuals and entities pursuant to the Terrorism (Suppression of Financing) Act (Chapter 325 of Singapore), as well as various regulations giving effect to United Nations Security Council Resolutions.

- 59.** Do note that the aforesaid measures and guidelines are not exhaustive. The Company should refer to other relevant MAS Notices and Guidelines to ensure compliance with AML/CTF measures as appropriate.

Annex C
Documents



The Data Validation Blockchain



KorthoChain

Whitepaper

Mar 2021


Executive Summary

Since the human society entered the 21st century, information technology has developed rapidly, driven by computers and the Internet. People have stepped into the era of the Internet, so that human beings can share and connect information in all corners of the world, working together as one big family. However, with increasing dependencies on the Internet and the convenience brought by technology to human beings, data security problems have become increasingly serious. Nowadays, permission access for information are chaotic, data information leakage is rampant, smart terminals are compromised, and other problems follow one after another. When faced with various information plagiarism and terminal data analysis, people will have no privacy and are exposed. Important issues on how to optimize the online data, security and ownership will have to be reexamined.

To this end, the KorthoChain blockchain ecosystem has emerged at the right time, providing a brand new blockchain solution for data encryption and desensitization, transaction information storage and data confirmation in the Internet field.

The KorthoChain is affiliated to the Kortho Foundation in Singapore. It is the pioneer of the public chain in the field of data right confirmation. KorthoChain has a complete blockchain architecture, including P2P network architecture, DSL specific smart contracts, PPOS consensus algorithm mechanism, ED25519 signature algorithm, SHA-3 encryption security algorithm, and Badger persistent k-v storage database.

KorthoChain is based on the POW+POS consensus algorithm, which has high fault tolerance, solves the problem of inconsistent block information in the network, and also greatly improves efficiency. It is expected that TPS



KorthoChain will create a new type of shared data ecosystem that is equal, mutual trust, inclusive and efficient. Protecting the rights and interests of ecosystem participants through smart contracts; realizing the transmission and protection of information value through DSL contracts, PPOS consensus and other technologies, attracting multiple parties to participate in the ecology; reducing storage and bandwidth costs, and ensuring information security and inquiries; facilitating sharing through the development of a series of DAPPs The retail ecosystem is developing rapidly.

KorthoChain uses the decentralization of the blockchain, distributed access to the database and the token economy to promote the ecosystemization of data confirmation. This includes data information traceability, data on-chain, digital token incentives, etc. Data verification can be applied to various fields of the Internet and even the physical industry. For example, in the field of e-commerce, it can effectively ensure the quality and safety of goods. From manufacturers to merchants to consumers, the production and circulation data of every product is uploaded onto the blockchain. While ensuring the quality of the goods purchased by consumers, the transaction timestamp is put on the chain to ensure the rights and interests of consumers, promoting the quality assurance of consumer goods and the integrity of merchants, and thereby increase the production capacity of the consumer ecosystem. Participants in the ecosystem measure the incentives of their digital tokens through their contribution value. The higher the contribution value, the more digital token rewards they will receive.

This white paper has designed a public chain platform that meets the ecosystem needs of KorthoChain, and is connected to public chains such as Ethereum and Polkadot through cross-chain protocols to realize the transfer of cross-chain asset value. In the ecosystem, scenarios such as shared data application scenarios, token incentive systems, people's livelihood application scenarios, secondary token issuance scenarios, and traceability cloud services have been realized. Building a full ecosystem consensus incentive system through blockchain technology, allowing all

participants, including consumers, collaborators, digital asset owners, and other parties, to jointly create and maintain the economic ecosystem of the KorthoChain token.

Terminology

KTO

KTO is the decentralized native digital Token of the KorthoChain public chain platform

Smart contracts

Smart contracts are event-driven, stateful, recognized by multiple parties, programs that run on the blockchain and can automatically process assets according to preset conditions. The biggest advantage of smart contracts is that they use program algorithms instead of relying on people for the arbitration and execution of the contract.

CATALOGUE

Executive Summary

Terminology

01 Vision and Mission

1.1 Vision

To empower new business ecosystem through data confirmation

1.2 Mission

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01

Vision and Mission

1.1 VISION

Bulid a global personal data security underlying system

1.2 Mission

Make human data more valuable !

02

Background Analysis

2.1 Market Analysis

Today, data is called the "oil of the 21st century." The Chinese government has listed data as the five major production factors alongside capital, land, labor, and technology. In the future, data will play an increasingly important role in human society.

- **Analysis of Global and China data application status**

A report called "Data Age 2025" in IDG shows that the annual global data will increase from 33ZB in 2018 to 175ZB in 2025 (1ZB is equivalent to 1.1 trillion GB).

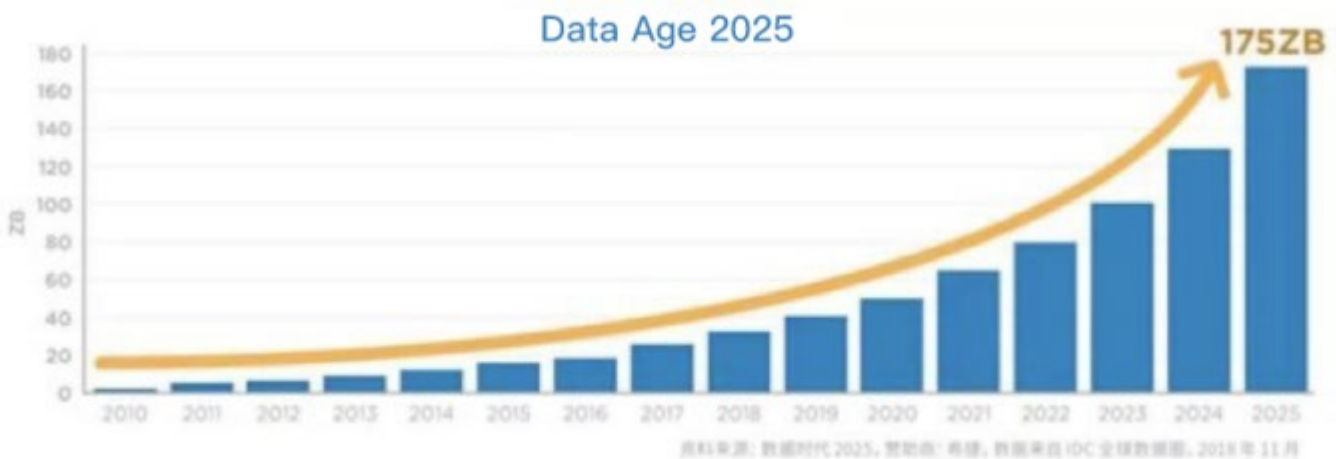


Figure 2-1 Annual scale of the global data circle Source: IDG

We can see that the scale of data generated every year has increased exponentially. With the advent of the digital economy era, everything such as the Internet of Things and the smart economy is inseparable from the support of the underlying big data. The future data scale will ever increasing.

However, the problem with data applications at this stage is that, in Internet applications, data is controlled and monopolized by a centralized platform, and data cannot be confirmed. The producers and providers of data are individual users, but the final ownership and use rights of data are taken away by third-party companies. The resulting

data privacy leakage, data is-lands, data value deprivation and other issues have increasingly become stubborn diseases in the digital age.

In response to the increasingly serious data problem, Professor Zhao Yanqing of Xiamen University analyzed in the article "Platform Economy and Socialism: The Essence of the Ant Group Incident" that the reason why platform-based companies such as Ant Group and Tencent Group have such a high market value, It is because they are taking big data, a public resource, as their own, and because the market has calculated the value of big data created by China's huge user base into the assets of these companies.

The creation of property rights is essentially a process of cost-benefit weighing. Property rights will only be produced when the benefits of internalizing externalities are greater than the cost of engaging in this behavior by defining property rights. When the benefits of determining the data property rights are greater than the cost of determining the data property rights, the data has the basis for determining the rights.

It can be seen that the economic basis for the confirmation of data property rights has long been created.

· **Development status of global data validation**

At present, the laws of various countries around the world do not have a clear legal explanation for the ownership of data property rights. The ownership of big data is still in the hands of technology-based platform companies. Once the data is refined, it means that all future data will be generated with clear data subject, data revenue, remuneration pricing, distribution model and circulation configuration.

If the future period is likened to the "Era of Big Data Navigation," where massive amounts of valuable data bring the advancement of world technology, then the period now and before would be a period of data dividend development. Generally speaking, big data is generated by individuals and users on the Internet. However, in the Internet era, the property rights or ownership of the data are, by default, large Internet platform companies, such as Amazon, Google, Alibaba, and Tencent, which are equivalent to these giants. In the window period of the Internet and in the era of unconfirmed data, the company has obtained the window bonus period of big data, using massive user data to occupy the industry moat and grow.

After big data is identified as a production factor, it means that it has to face the distribution of production factors. The distribution of production factors involves the distribution of wealth, which also involves fairness and justice. Therefore, data validation and

the huge impact brought about by the fair distribution of data value can be said to be the greatest change of this era.



controlled by data oligarchs and large-scale data platforms. As long as you have the data of a large number of users, you can perform data analysis and have stronger business competitiveness. Therefore, data is regarded as the core asset of each enterprise. It constantly obtains data from users, freely control network users' data without being responsible for users' data, and only large platforms that master big data can have the right to price data. On multiple Internet platforms, there are more or less big data problems. For example, on a local lifestyle platform, it is relatively cheap for Android users to book a hotel, while the same hotel an iPhone user will cost dozens of dollars more. On a certain travel platform, it is cheaper for users who occasionally hire a car, but cost a few dollars more for frequent users. The frequent occurrence of data monopoly and big data has become a serious problem in the Internet industry.

2.2 Identify Market Problem

- **Data leakage is serious and user privacy cannot be guaranteed**

As users passively or actively hand over the ownership and use rights of data to third-party platforms, a large amount of private information and data are maliciously acquired, used, leaked, and even sold by third-party platforms. After personal information is leaked, it is often subject to information harassment, advertising harassment, fraudulent information induction, etc. This may lead to many problems such as personal safety, personal property safety, etc. However, users do not have any rights protection channels and cannot guard against it. The anonymity of blockchain data encryption can effectively solve the problem of personal privacy data leakage and as well as plagiarism.

• **Data centralization monopoly is serious, leading to the use of data for**

unsavory practices

The massive amounts of data in the online world are actually

- **Data islands, each centralized entity blocks data liquidity**

In all aspects of social development, data needs to be shared, open, and fair use. Because data is monopolized and controlled by various centralized platforms, valuable data cannot be efficiently transferred and circulated. Data cannot be correlated with each other, and their choices are not compatible. Instead, their own data moats are established, which creates a serious problem of information and data islands.

- **Lack of credible data value transfer system**

In the era of digital economy, data has become the foundation of social productivity. The operation of all economic and social organizations cannot be separated from the support of huge data. However, data nowadays is transmitted freely and without a bottom line. It is often used by third-party agencies or platforms to sell, transfer, and exchange to each other to form commercial benefits. However, the creators and providers of huge data commercial benefits-the majority of users, are deprived of the right to share data benefits. Which is equivalent to being deprived of the value of data. Only by constructing a good data right confirmation system and data value conversion system, and perfecting a fair data distribution system can data generate real value and turn society into a credible value data society.

Ecosystem

03

The KorthoChain ecosystem is a new ecology of shared data economy based on the openness, mutual trust, and inclusive quality of the blockchain. A large number of community users, digital, technology developers, advertisers, service providers and other parties jointly participate in ecosystem maintenance and development. The KTO Chain is based on blockchain, smart contract, DSL, PPOS and other technologies to protect the interests of various participants while solving the pain points

faced by data confirmation in various industries. It effectively integrates various industry data resources and builds multi-party participation and multi-party based on KTO. Participants benefit from the new ecosystem of shared data along with various DAPPs such as data media application DAPP, local life O2ODAPP, membership platform DAPP, and de-centralized financial platform DAPP. Multi-format use case such as urban lifestyle, localized services, membership services, product traceability, traceability cloud, and AI data analysis have been realized. We will comprehensively build a new future-oriented, trusted value Internet economy, and allow people to enter a new era of more open, mutual trust, quality, and inclusive sharing of value data.

- **User groups**

User groups play a pivotal role in the entire Ketu Chain ecosystem. They are the users and promoters of smart contracts and DAPPs, the creators and providers of all data on the chain, and the creators and creators of all relationships in the chain. They can play a decisive role in the maintenance and development of the Ketu Chain ecosystem.

1. Community Users :

A large number of community users can use multiple DAPPs for block chain cognitive learning, local lifestyle, group buys, commodity traceability, decentralized transactions, acquisition of encrypted digital assets and other decentralized and trusted exclusive services. KorthoChain realizes the confirmation and privacy protection of data and assets of users in the community through blockchain technology. Community users conduct commodity consumption, provide activity, data and other behaviors through the DAPP application based on KorthoChain. The value of their contribution and the data generated will form a contribution value. The incentive of their digital tokens is measured according to the contribution value and comprehensive computing power. The higher the contribution value, the more digital token rewards will be obtained. The obtained tokens can be used for consumption within the ecosystem, and also complete global peer-to-peer circulation through blockchain wallets, obtaining real economic value incentives, and return the value of data to users themselves.

2. Digital asset owners:

Blockchain and smart contracts will lower the participation threshold for digital asset owners and protect the interests of these parties; Building a trustworthy value network, and carrying out various financial activities such as commodity crowdfunding, service crowdfunding, equipment crowdfunding, mutual insurance, etc. based on smart contracts. The various ecosystem tokens of KorthoChain represent the value of its

application. All users who recognize its ecosystem application hold the tokens of the corresponding platform, which means that they stand together with the ecosystem and provide a sufficient economy for the development and growth of the system. As the ecology of the KorthoChain continues to enrich and the consensus of the community continues to increase, the utility value of the ecological tokens of the KorthoChain will also gradually be enhanced.

3. Technology Developers

The technical service provider will be responsible for the contract deployment and technical support of the entire ecosystem. Technical service providers are important participants in ecosystem maintenance. They, and other participants will work together to achieve sustainable ecosystem development. The underlying technology code of KorthoChain is completely open and open source. Anyone and any organization can develop and deploy ecosystem applications based on the underlying technology of KorthoChain. The support of the majority of community developers for the underlying technology of KorthoChain is also an important driving force to help perfect the ecosystem of KorthoChain and progress.

4. Advertisers, service providers

When external advertisers or service providers cooperate with the KorthoChain ecosystem, they need to use the Kortho Token as a cooperation medium, which can provide sufficient liquidity and value empowerment for the Kortho Token. Advertisers and service providers are also an important driving force for the Kortho ecosystem, they help Ketu Chain to expand its influence, popularize the consensus and scope of use. They let the wider community understand, agree and participate in the Kortho ecosystem, and let the KorthoChain grow step by step.

- **Use cases**

Use case is the general term for community users to use various DAPPs to conduct various activities online or offline. In this process, all participants are not only consumers, digital asset owners, and data providers of products in each scenario, but also the beneficiaries and builders of the ecosystem.

Regardless of the participants, they follow the same principles in the ecosystem :

1. Openness

In the ecosystem of KorthoChain, openness and cooperation are the first principle. All participants in the ecosystem open part of their data to other nodes, such as transaction informa-

tion, product information, service information, etc., because KorthoChain is decentralized. In the public chain, these information are all encrypted with high strength. It is also because of the use of the most basic feature of the blockchain: encrypted data is irreversible, making the data on the chain more secure and reliable. At the same time, due to the use of distributed ledgers technology, all transaction records, contracts and other information cannot be tampered with or lost, which further guarantees the security of transactions. Participants in the ecosystem follow uniform standards and technologies, making cooperation between nodes easier and more diverse, and the benefits generated will benefit the entire ecosystem.

2. Mutual trust

In the traditional Internet or various traditional industries, it is difficult to achieve mutual trust. For example, in the area of local lifestyle, low-quality goods and services have produced the effect of inferior products driving out good ones, and businesses are pursuing profits and ignoring quality. On the KorthoChain, since all transaction records will be on the chain, any bad business behaviors of the merchants are faithfully recorded, and consumers' evaluations of the merchants are also recorded on the chain based on objective facts, and are based on the blockchain. These records cannot be tampered with or destroyed, and everyone's credit information has also been reviewed extensively based on this. At the same time, those fine merchants who value credit and quality will have better and better credibility, which will be recognized by more consumers and will gain more and more benefits from the ecosystem. In addition, good merchants can also get more token rewards, which in turn enable merchants to further reduce operating costs, making the good ones better, and the bad ones eventually fades away.

3. Token Incentive

The ecosystem of KorthoChain is a highly liberalized combination of all participants. Each participant is not only a user of ecosystem resources, but also a contributor of resources. For example: Consumers purchase goods from merchants to promote consumption, merchants provide goods or services beyond imagination, consumers pay for sharing, organizations or individuals introduce necessary resources for the ecosystem, provide voluntary services for ecosystem management, etc., all of which will receive the corresponding token incentives. These token incentives are issued in the form of tokens into the account designated by the recipient, which can be consumed and paid within the ecosystem scope, so that

merchants can reduce costs and return benefits to the ecology; it can also increase consumers' desire to consume, which also makes each participant more motivated to carry out ecosystem design.

4. Asset confirmation

Asset confirmation is a more extensive and advanced application of blockchain technology. Since the data information on the KorthoChain is ir-reversible, non-tamperable and immutable after being encrypted, it becomes possible for the asset to be chained as an asset on the chain, plus a pass. The value given by the economy makes these assets become items that can be traded freely and safely. The assets can be clearly attributed to certain organizations and individuals. All this information will be fully recorded on the KorthoChain, making them assets. When financing on the basis of assets, it is no longer necessary to list tedious asset certificates. While increasing the credibility of asset holders, it simplifies financing procedures and lowers the financing threshold. In addition, the assets that can be chained through confirmation are no longer limited to tangible items. Intangible assets can also be confirmed and chained in this way, thereby expanding the scope of financing.

Ecosystem Application

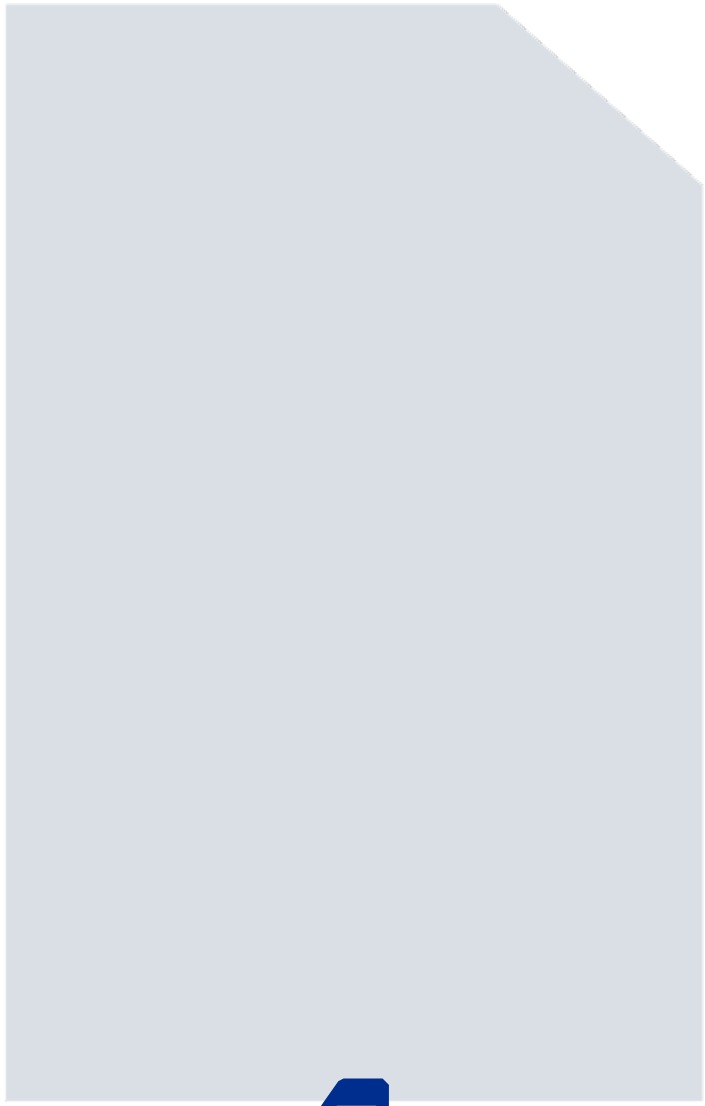
4.1 Decentralized Financial Services (DeFi)

KorthoChain establishes financial service applications through blockchain and smart contracts. Blockchain technology builds a trustworthy value network, and smart contracts ensure the interests of participants

Due to the immutable nature of information on the blockchain technology chain, it is possible for assets to be linked to the chain to confirm rights. This provides the basis for financial services on the KorthoChain. After the high-quality assets on the KorthoChain

are confirmed, the rights of digital asset owners are protected through the smart contract KorthoChain, which eliminates

**ECOSYSTEM
APPLICATION**



the possibility of default.

KorthoChain provides flexible and efficient decentralized financial services for digital asset owners and community users through multiple methods such as encrypted digital wallets, network consensus, DeFi liquidity mining, and DEX de-centralized exchanges.

KorthoChain Digital Token KTO adopts a consensus mining system. All KTO holders in the community can pledge KTO to secure the network to participate in network consensus, thereby receiving additional KTO incentives for their efforts. DeFi liquidity mining is based on the DeFi experimental protocol built by the developers of the underlying smart contracts of KorthoChain. The DeFi experimental protocol built through the underlying technology of KorthoChain has the advantages of fast speed, low handling fees, and low operating thresholds. In this way, some Ethereum migrated users and developers will come to the KorthoChain community to develop and collaborate; in the decentralized exchange, users no longer need to worry about the security of assets controlled by the centralized platform. Through the exclusive sub-token of the DEX platform, the development of the DEX ecosystem is independently governed, including currency listing, network consensus, trading, etc., so as to create a more open, democratic and efficient digital asset trading environment.

4.2 KorthoChain Token Incentive

Any capable enterprise, institution or individual in the ecosystem, considering business development, can develop their own business tokens on the KorthoChain by virtue of their high-quality assets or excellent business models, and circulate them among other businesses or trades. We call it equity token. This is completely unimaginable under the traditional model. The issuance of currency used for payment and circulation can only be carried out by the central agency, and merchants and individuals can only use and circulate, and the exchange loss caused by overseas trade will eventually be passed on to consumers.

This kind of digital token can be the right to use products and services, or it can be a voucher for sharing future benefits. KTO has become the link between the various rights and interests tokens, which can effectively launch the development of a cross-industry and cross-field multi-industry cooperation community and promote the prosperity and development of the ecosystem of various industries.

The above use cases transformed traditional offline operations and centralized management to KorthoChain, they will cause a chain reaction in the ecosystem, making it possible-

ble for each enterprise or platform to become a financial system. The use of emerging technologies makes mutual trust between people simpler and safer, and an autonomous community ecosystem will gradually grow and become the mainstream form.

4.3 Data traceability and validation

The traditional Internet industry generates a lot of data, which is often stored in third-party organizations. On the one hand, centralized and opaque storage methods reduce the credibility of data and reduce the value of data. On the other hand, the ultimate beneficiary of data belongs to a third-party organization rather than the producer of the data.

Based on blockchain technology, smart contracts, and DAI, KorthoChain has built a precise data service scenario for the entire ecosystem, so as to achieve data traceability, data verification and privacy protection. Moreover, the data producer—ordinary user, also becomes the owner of data ownership. The majority of users can provide their data and information to the ecosystem in a paid way, so as to prevent data from being misused, and at the same time return the revenue generated to the user.

The KorthoChain ecosystem will use blockchain technology to confirm the data rights of device personal data, consumption data, personal profile data, basic attribute data, and operator data. Through smart contracts, digital advertising purchases, personalized digital marketing, business analysis and applications, portraits and credit reports, privacy data are prevented from leaking, and accurate advertising services and data privacy protection are realized. Advertisers use smart contract transactions, pay KTO, and use effective structured data to carry out precise advertising. KTO Chain will reward all participants in the inclusive advertising system by rewarding KTO.

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Technical Model and Development Blueprint

5.1 Technology Architecture

KorthoChain will be a completely autonomous main chain that integrates a variety of advanced technologies, making KorthoChain reach an unprecedented height in terms of fault tolerance mechanism, smart contract deployment, network communication, and ecosystem DApp management. KorthoChain adopts the PPOS (POW+POS) consensus mechanism to ensure the safe and reliable operation of the whole chain nodes. It also adopts the DSL language to make the deployment of smart contracts easier and more efficient. It uses the ED25519 signature algorithm to verify the inter-block Consistency, the Sha3 encryption algorithm is used to prevent the information on the chain from being leaked and tampered with. At the same time, there are reliable communication protocols and network protocols to ensure the efficient and safe transmission of information on the chain. All data such as transaction content and user portraits are safely stored to achieve data protection and reliable value transfer. As an open public chain, KorthoChain helps small and medium-sized enterprises to quickly build their own DAPPs through the expansion of the application technology ecosystem, so that they can flexibly participate in the ecosystem development and enjoy the utility value created within the ecosystem.

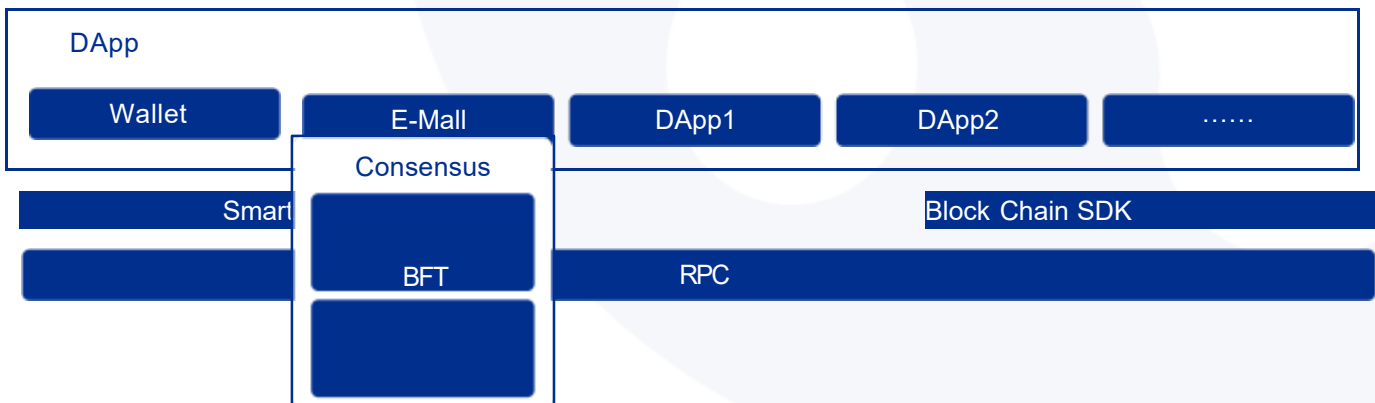
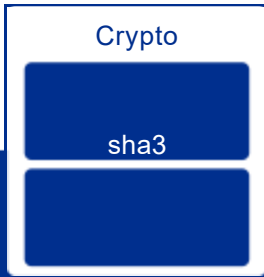
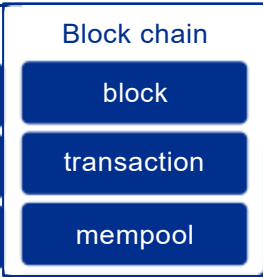
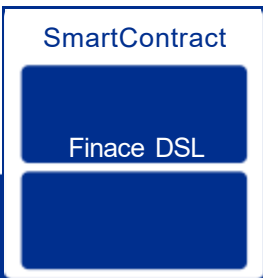


Figure 5-1



5.2 Core Technology

· PPOS (POW+POS consensus mechanism)

Since the emergence of the Bitcoin network system in 2008, many blockchain projects have emerged from time to time, and each block-chain project has its own specific mechanism. But almost all blockchain projects have a starting point, that is, the blockchain is the core of their architecture. Like most distributed accounting systems, network participants of blockchain projects need to agree on the current status of the blockchain. This is what we call consensus. However, it is not a simple matter to reach a consensus on a distributed network by means of efficiency and energy saving. In light of this, Bitcoin and Ethereum's POW have exposed their drawbacks, such as high energy consumption, low efficiency, and monopoly of computing power. Hence, how would KorthoChain avoid these problems? KorthoChain adopts the consensus mechanism of POW+POS to achieve low energy consumption, high efficiency, avoid computing power monopoly, and achieve a consistent mechanism

Simply put, the PPOS mechanism is based on POW plus Proof of Rights, which combines the advantages of the two and balances each other's weaknesses.

KorthoChain adopts the PPOS mechanism, which is the best solution that can be used in the current stage of blockchain development. To a large extent, the problem of inconsistent block information in the network has been solved, and the efficiency and energy consumption problems have also been greatly improved. To a large extent, it solves the problem of inconsistency of block information in the network, and also greatly improves the efficiency and energy consumption issues, greatly improving the transaction performance under the premise of obtaining security guarantees. KorthoChain adopts the PPOS mechanism, which is the best solution that can be used in the current stage of blockchain development. It solves the problem of inconsistent block information in the network to a large extent, and also greatly improves efficiency and energy consumption. The problem makes the entire chain interaction greatly improve the transaction performance under the premise of obtaining security guarantees, which is a degree that other consensus mechanisms cannot achieve. This is a level that cannot be achieved by other consensus mechanisms

· ED25519 Signature algorithm

Ed25519 is an elliptic curve encryption/signature/key exchange algorithm independently designed by the famous cryptographer Daniel J. Bernstein in 2006. It is completely inde

pendent of any existing elliptic curve algorithm. Ed25519 is mainly used for signature security in KorthoChain check.

The Ed25519 algorithm has the following advantages :

1. Fully open design

This feature makes the selection of the parameters of the algorithm straightforward, very clear, without any suspicious points, and will not use parameters of unknown origin. It is very suitable for blockchain projects with large transaction volume and high security requirements.

2. High security

Even if an elliptic curve encryption algorithm is mathematically safe, it is not necessarily safe in practice. It has a high probability of destroying security through caching, time, and malicious input. The 25519 series of elliptic curves are specially designed to be as safe as possible. The probability of errors is minimized, and it can be said to be the most secure encryption algorithm in practice. For example, any 32-bit random number is a valid X25519 public key, so it is impossible to attack by malicious numerical value. Some branch operations are deliberately avoided when the algorithm is designed, so that it is not used in programming, Reduced the probability of timing attacks with different if branch code execution times. After examining all the encryption algorithms on the market using 12 standards, ED25519 is almost the only one that meets these standards.

3. High Speed

The ED25519 series curve is currently the fastest elliptic curve encryption algorithm. Its performance far exceeds that of the NIST series, and it has higher security than other algorithms. It is that KorthoChain has both security and efficiency.

· EVM Smart Contracts

KTO runs on KorthoChain in the same way as ETH on Ethereum, so it is the native currency of KORTHO. KORTHO supports the programmability of EVM and the compatibility of smart contracts.

· SHA-3 Encryption security algorithm

Hash functions used to generate data fingerprints have been used in various fields of economic life, protecting data security on the blockchain at all times. SHA-3 (Keccak) is the third-generation hash function standard confirmed by the American Institute of Standards and Technology, and is the most important hash function in the next few years

SHA-3, formerly known as Keccak algorithm, is an encryption hash algorithm. Due to the successful cracking of MD5 and the theoretical cracking of SHA-0 and SHA-1, NIST felt that it needed a different and replaceable encryption hash algorithm, which is now SHA-3.

This is an encryption algorithm that has been more rigorously demonstrated, so that the encryption performance of the blockchain after adopting this technology has achieved unprecedented heights, but at the same time, there is no significant drop in performance, which has become the current blockchain project. The best security encryption algorithm used. After KorthoChain adopts SHA-3 encryption technology, its security has been greatly improved, and it provides reliable security guarantee for transactions in the ecosystem and on-chain of sensitive information.

· **Badger Key-Value (KV)**

An embeddable, persistent, simple and fast key-value (KV) storage database is essential for every blockchain project. Badger is written in native Go, which is the fastest storage method in Go. Badger is reading randomly Time is at least 3.5 times faster than RocksDB. For data between 128B and 16KB, the data loading speed is 0.86x-14 times that of RocksDB.

The advantages of Badger are obvious: random read speed, can be directly embedded in applications, simple and convenient to use, support for multiple loading modes, optimized for SSD, written in pure Go, and more compact based on LSM-tree.

· **DApp Ecosystem**

On KorthoChain, users can quickly develop their own independent distributed application DAPP based on a large number of mature components. So as to create a three-dimensional ecosystem and build a one-stop blockchain content and value delivery network

Shared retail users use KTO Chain as their DAPP development, purchase corresponding technical support products or components, and use KTO as a token for

circulation between DAPPs. Third-party developers can also provide technical services to the Kortho-

Chain ecosystem to obtain token rewards. KorthoChain is an open and open source platform. While continuously forming more commercial application DAPPs, we welcome other partners to participate in improving the entire platform ecosystem and promote innovation and technological breakthroughs in data security and data value transfer.

5.3 Development blueprint

After several years of development, KorthoChain has begun to take shape. Our next goal is to build KorthoChain into a system that is more open, international, high-throughput, more secure and takes into account the right to data privacy. In the near future, we will focus on R&D and technological breakthroughs in the following areas:

- **PoS-based consensus algorithm and a more open ecosystem**

The KorthoChain technical team is further improving the code and technical documentation, and is preparing to open it to third parties, blockchain developers and users around the world, so as to facilitate their participation in order to make the Ketu ecosystem more decentralized. We are preparing to establish developer communities and block production nodes in Japan, South Korea, the United States, Europe and other places. At the same time, on the basis of PPOS, we will join the PoS (Proof-of-Stake) consensus algorithm, and all nodes will determine the rights and rewards of the block based on the amount of KTO pledge. Compared with traditional PoW, PoS consumes less computing power and energy, and can support higher throughput.

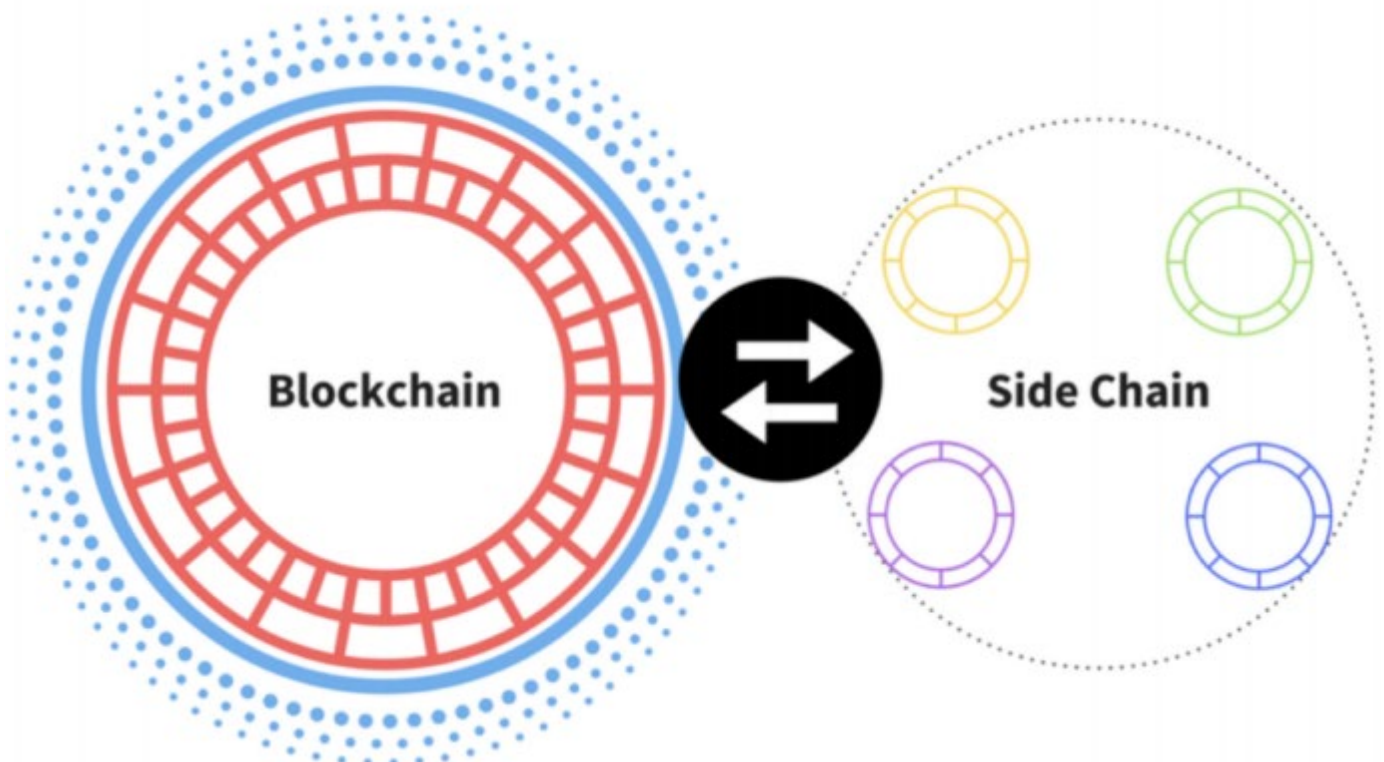
- **Layer 2 expansion plan**

With the continuous expansion of blockchain application scenarios, its throughput requirements will become higher and higher. In the future, it may be necessary to reach the order of hundreds of thousands of transactions per second of traditional payment systems such as Visa and Alipay. As a distributed decentralized system, it is technically challenging to achieve such a large throughput only in Layer 1. A better solution is to add a Layer 2, which is also the current direction of major public chains. In the

field of layer 2 technology, the current main attack directions of Kethulin include ZK rollups, Optimistic rollups, and off-chain payment channel technology similar to Lightning Network.

· Multi-Chain Support

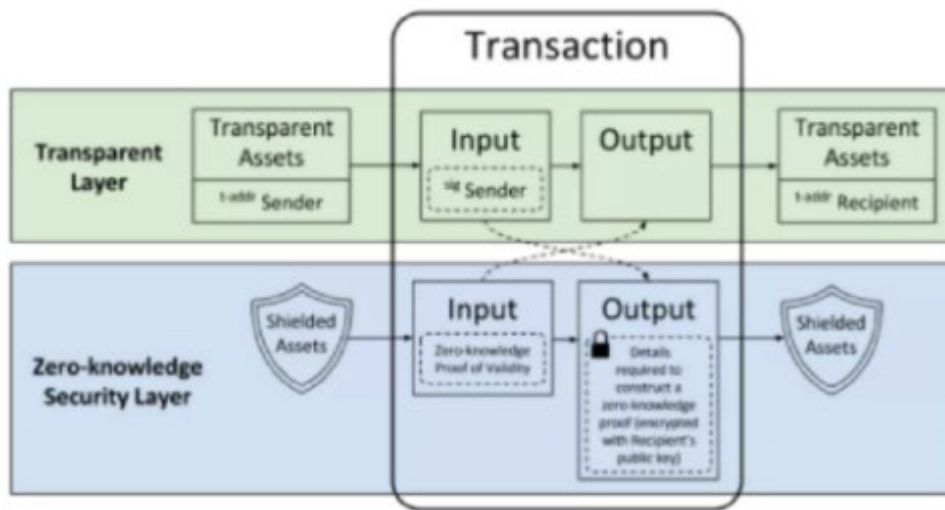
Due to different application scenarios, the future blockchain is likely to be a state where multiple chains coexist, so the intercommunication between them will be an important issue. The KorthoChain team is also making technical preparation in this regard. We may participate in cross-chain systems such as Polkadot and Cosmos in the future, or develop our own cross-chain communication or sidechain mechanisms, as shown in the figure below :



· Private Transaction Support

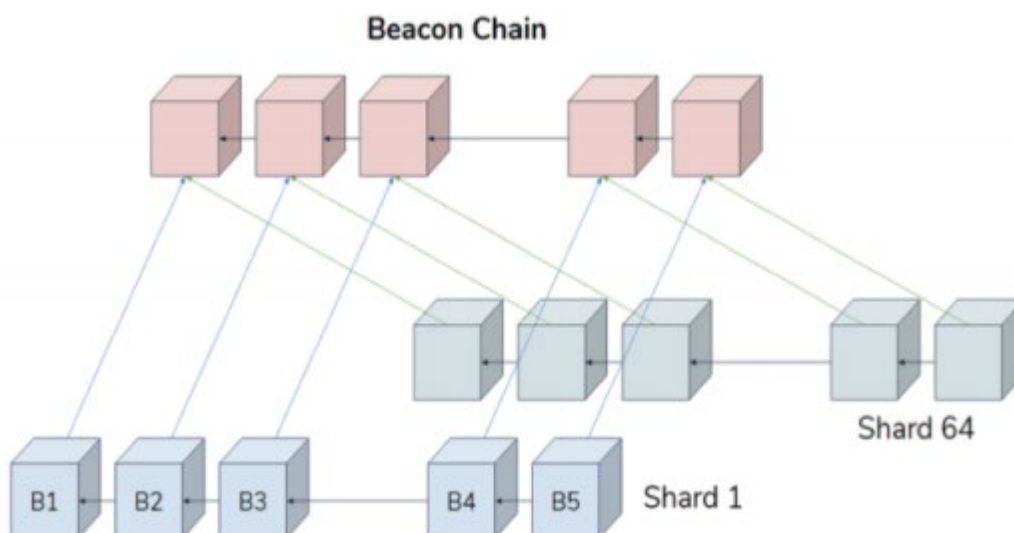
An important application scenario of KorthoChain is the traceability and validity of data, so the privacy of data must be a key technology. In this re-gard, we will support Zero

Knowledge Private Transactions based on ze-ro-knowledge proof. The address and amount of such transactions are con-fidential, but at the same time the initiator can also selectively share this in-formation with specific groups of people, and it can also meet the needs of regulatory agencies. The structure of private transactions is illustrated in the following figure :



· Sharding

In most existing blockchain systems, all nodes participate in all transaction operations and verifications, which severely restricts the overall throughput improvement. To change this situation, a technology that can be used for reference is the sharding technology in the database, that is, the nodes are divided into multiple groups, called Shards. Each task is completed by one group, so multiple groups can be processed in parallel. The tasks are then summarized (for example, using a Beacon Chain), so that the overall throughput can be improved, as shown in the following figure. In terms of sharding technology, the KorthoChain team is currently in the technical preparation stage, and we are closely tracking the latest developments in this field by technical teams such as Ethereum, Harmony Blockchain, and Near Protocol.



KTO INTRODUCTION

6.1 KTO Introduction

The native cryptographically-secured fungible protocol token of KorthoChain (ticker symbol KTO) is a transferable representation of attributed utility functions specified in the protocol/code of KorthoChain, and which is designed to be used solely as an interoperable utility token thereon.

6.2 KTO Advantage

KTO is a functional multi-utility token which will be used as the medium of exchange between participants on KorthoChain in a decentralised manner. The goal of introducing KTO is to provide a convenient and secure mode of payment and settlement between participants who interact within the ecosystem on KorthoChain without any third party institution/credit involvement, and it is not, and not intended to be, a medium of exchange accepted by the public (or a section of the public) as payment for goods or services or for the discharge of a debt; nor is it designed or intended to be used by any person as payment for any goods or services whatsoever that are not exclusively provided by the issuer. KTO does not in any way represent any shareholding, participation, right, title, or interest in the Company, the Distributor, their respective affiliates, or any other company, enterprise or undertaking, nor will KTO entitle token holders to any promise of fees, dividends, revenue, profits or investment returns, and are not intended to constitute securities in Singapore or any relevant jurisdiction. KTO may only be utilised on KorthoChain, and ownership of KTO carries no rights, express or implied, other than the right to use KTO as a means to enable usage of and interaction within KorthoChain.

Further, KTO provides the economic incentives which will be distributed to encourage users to exert efforts towards contribution and participation in the ecosystem on KorthoChain, thereby creating a mutually beneficial system where every participant is fairly compensated for its efforts. KTO is an integral and indispensable part of KorthoChain, because without KTO, there would be no incentive for users to expend resources to participate in activities or provide services for the benefit of the entire ecosystem on KorthoChain. Given that additional KTO will be awarded to a user based only on its actual usage, activity and efforts made on KorthoChain and/or proportionate to the frequency and volume of transactions, users of KorthoChain and/or holders of KTO which did not actively participate will not receive any KTO incentives.

6.3 KTO Circulation

The point-to-point circulation of KTO from issuance to sub-application tokens to global block-chain wallets will be realized in a multi-directional flow.

In the area of ecosystem applications, KTO Chain, with the continuous expansion of various DAPP applications, the number of people who are empowered and rewarded is increasing, and the volume involved increases, the scope of holding and circulation will be broader, and the total amount of KTO is held constant, as the number of rewarded KTOs continues to decrease, a multi-party scarcity is formed, which not only guarantees the rights and interests of all parties, but also makes KTOs more credible, and at the same time makes the ecosystem more active and healthy.

KTO Principles of Value Circulation System Development :

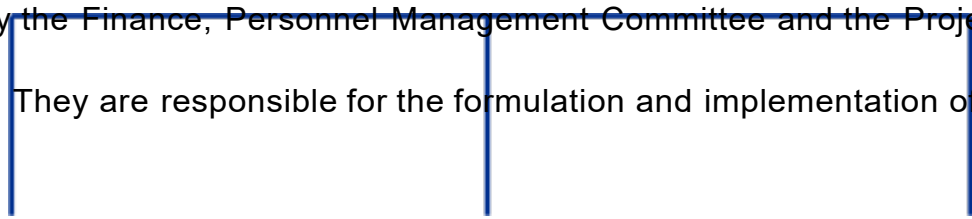
As an ecosystem participant, technical service providers can use the underlying technology of KorthoChain for free, develop their own commercial applications, and provide high-quality technical services to the ecosystem of KorthoChain. Technical service providers participate in the ecosystem development of KTO Chain with their own technical advantages, which can expand their popularity, but also benefit from various utilities in the ecosystem.

ISSUANCE AND DISTRIBUTION

7.1 Foundation governance

Korthochain established the Korthochain Foundation in Singapore, and the Korthochain Foundation's ecosystem is managed and developed by the Korthochain Foundation. The overall

structure of the Korthochain Foundation is shown in the following figure. The decision-making committee governs the three sub-departments of the Technology Development Committee, namely the Finance, Personnel Management Committee and the Project Operation Committee. They are responsible for the formulation and implementation of the technol-



Korthochain Foundation

Technology
Development
Committee

Finance
Personnel Management
Committee

Project
Operation
Committee

Figure 7.1 Kortho Foundation organization chart



ogy development strategy; the formulation and implementation of the supervision of the financial system; Decision-making and execution of overall project operation and marketing. The members of the decision-making committee are changed every four years, and the members are generally recommended by each subcommittee with two representatives, plus one representative each from the project strategic team, the community, and the value network team. The members are generally held by persons with outstanding abilities in the relevant industry.

The Kortho Foundation advocates a transparent and efficient operation concept to promote the healthy development of the value network ecosystem. The governance structure mainly focuses on the effectiveness, sustainability and capital security of project management.

Organizational functions of the Kortho Foundation:

The Kortho Foundation advocates a transparent and efficient operation concept to promote the healthy development of the value network ecosystem. The governance structure mainly focuses on the effectiveness, sustainability and capital security of project management.

The Kortho Foundation is an independent and democratic governance institution in the KorthoChain ecosystem. Its functions include:

Firstly, maintaining the stable operation of the KorthoChain ecosystem, allowing ecological participants to enjoy the smart retail system freely, equally, and credibly, and helping the booming development of the retail economy.

Second, being committed to building a free, equal, efficient, and mutually trusting smart retail value ecosystem. Together with other ecosystem partners, open governance of its resources.

Thirdly, providing an open and sustainable development platform and ecosystem for more users and developers.

The Kortho Foundation will allocate resources towards three specific goals of research, development and governance. The foundation will hire a development team to promote this series of work, improve the technology of the entire ecosystem, and continue to maintain the open source code base, so that all members of the ecosystem continue to benefit.

Over time, the Kortho Foundation may be replaced by other more innovative governance

methods, but establishing a formal governance institution is an important step in this process.

Fundraising use of the foundation :

The mission of the Kortho Foundation is to promote the development of blockchain technology from the Internet to a value network. It plans to raise funds for development through the issuance of KTO coins. The foundation will allocate the raised funds in the following directions :

(1) Research and develop the core technologies of Kortho's public chain and DAI, DFS, DID and other core technologies, as well as the development and expansion of various DAPP applications based on Kortho's chain. In addition, there is also forward-looking research on basic technologies and applications of blockchain. ;

(2) Promote to various ecosystem participants around the world, including but not limited to: advertising, publicity and marketing activities ;

(3) Through the combination of advanced application technology and operating methods, the Foundation strives to construct an emerging economic ecosystem of smart retail with global human participation, and provides tools and platforms for networked and digital services for all parties involved in the retail field. ;

(4) Hardware procurement of computing power, network, security equipment, and cloud service rental costs ;

(5) Other incidental expenses.

7.1 KTO Distribution Plan (2 stages)

KorthoChain itself is simply a blockchain protocol which, by design, does not own or run any third-party computing/storage servers. It relies on an open, decentralised network of multi-node confirmation backup mechanism in order to ensure security and prevent double-spending, making it extremely safe, transparent and queryable, thereby safeguarding the rights and interests of participants. Accordingly, third-party computing/bandwidth/storage resources are required for processing transactions and running applications on KorthoChain, as well as the validation and verification of additional blocks / information on the blockchain. Providers of these services / resources would require payment for the consumption of these resources (i.e. "mining" on

KorthoChain) to maintain network integrity, and KTO will be used as the native currency to quantify and pay the costs of the consumed computing/bandwidth/storage resources.

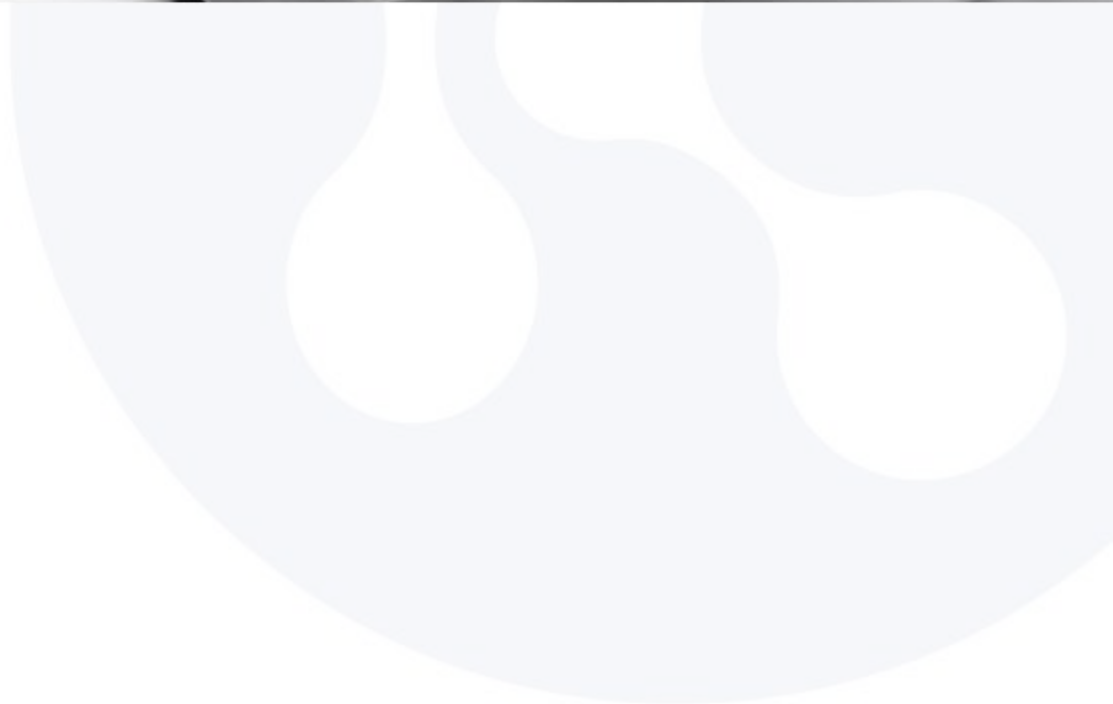
The total amount of KTO is 88.48 million, and the total amount is constant. KTO issues standard tokens based on the Ethereum blockchain ERC20. After the KorthoChain mainnet is launched, the current Ethereum-based KTO will be replaced with a 1:1 method. The KTO distribution plan is shown in the figure :

1st stage: The KorthoChain mainnet will be based on the BFT consensus mechanism for consensus mining. There are a total of 6 creation nodes and 13 super nodes. A total of 19 super nodes participate in consensus mining. Mining will be halved in 4 years. A total of 22 million KTOs have been dug up to date.

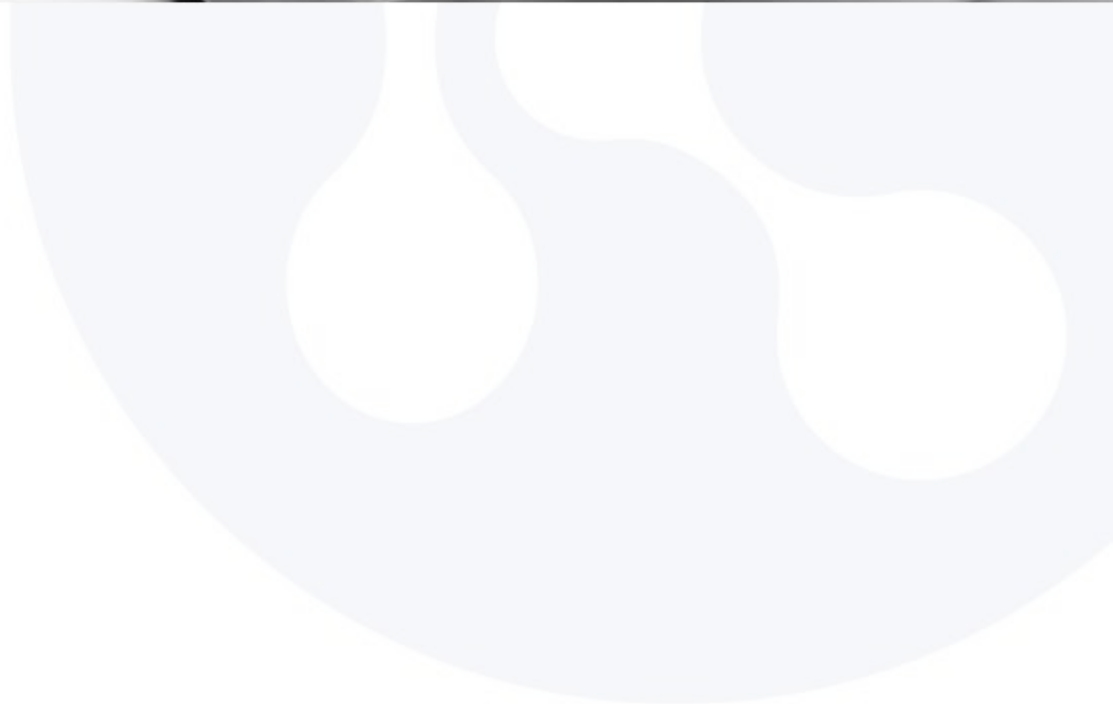
2nd stage: KorthoChain mainnet switches to the consensus mechanism of POW+POS for mining, and introduces a mode of mining with fully open source node miners. The staking mechanism will be released in a stepped manner around a 120-day cycle

TEAM INTRODUCTION

08 Core Team



KorthoChain has a strong and experienced technical team, including Silicon Valley technical experts, members of the industry's top research institutes, senior engineers, etc, which have played a key role in the establishment of KorthoChain's underlying technology. At the same time, the global market and operation team has made KorthoChain's ecosystem influence and consensus stronger. It is the efforts of all team members that make the development of KorthoChain more stable and longer-term.



DISCLAIMER

9.1 Legal Notices

PLEASE READ THE ENTIRETY OF THIS "DISCLAIMER" SECTION CAREFULLY. NOTHING HEREIN CONSTITUTES LEGAL, FINANCIAL, BUSINESS OR TAX ADVICE AND YOU SHOULD CONSULT YOUR OWN LEGAL, FINANCIAL, TAX OR OTHER PROFESSIONAL ADVISOR(S) BEFORE ENGAGING IN ANY ACTIVITY IN CONNECTION HEREWITH. NEITHER KORTHO TECHNOLOGY FOUNDATION LTD. (THE COMPANY), ANY OF THE PROJECT TEAM MEMBERS (THE KORTHOCHAIN TEAM) WHO HAVE WORKED ON KORTHOCHAIN (AS DEFINED HEREIN) OR PROJECT TO DEVELOP KORTHOCHAIN IN ANY WAY WHATSOEVER, ANY DISTRIBUTOR/VENDOR OF KTO TOKENS (THE DISTRIBUTOR), NOR ANY SERVICE PROVIDER SHALL BE LIABLE FOR ANY KIND OF DIRECT OR INDIRECT DAMAGE OR LOSS WHATSOEVER WHICH YOU MAY SUFFER IN CONNECTION WITH ACCESSING THIS WHITEPAPER, THE WEBSITE AT [HTTPS://KORTHO.ORG/](https://kortho.org/) (THE WEBSITE) OR ANY OTHER WEBSITES OR MATERIALS PUBLISHED BY THE COMPANY.

Project purpose: You agree that you are acquiring KTO to participate in KorthoChain and to obtain services on the ecosystem thereon. The Company, the Distributor and their respective affiliates would develop and contribute to the underlying source code for KorthoChain. The Company is acting solely as an arms' length third party in relation to the KTO distribution, and not in the capacity as a financial advisor or fiduciary of any person with regard to the distribution of KTO.

Nature of the Whitepaper: The Whitepaper and the Website are intended for general informational purposes only and do not constitute a prospectus, an offer document, an offer of securities, a solicitation for investment, or any offer to sell any product, item, or asset (whether digital or otherwise). The information herein may not be exhaustive and does not imply any element of a contractual relationship. There is no assurance as to the accuracy or completeness of such information and no representation, warranty or undertaking is or purported to be provided as to the accuracy or completeness of such information. Where the Whitepaper or the Website includes information that has been obtained from third party sources, the Company, the Distributor, their respective affiliates and/or the KorthoChain team have not independently verified the accuracy or completeness of such information. Further, you acknowledge that circumstances may change and

that the Whitepaper or the Website may become outdated as a result; and neither the Company nor the Distributor is under any obligation to update or correct this document in connection therewith.

Token Documentation: Nothing in the Whitepaper or the Website constitutes any offer by the Company, the Distributor, or the KorthoChain team to sell any KTO (as defined herein) nor shall it or any part of it nor the fact of its presentation form the basis of, or be relied upon in connection with, any contract or investment decision. Nothing contained in the Whitepaper or the Website is or may be relied upon as a promise, representation or undertaking as to the future performance of KorthoChain. The agreement between the Distributor (or any third party) and you, in relation to any distribution or transfer of KTO, is to be governed only by the separate terms and conditions of such agreement.

The information set out in the Whitepaper and the Website is for community discussion only and is not legally binding. No person is bound to enter into any contract or binding legal commitment in relation to the acquisition of KTO, and no digital asset or other form of payment is to be accepted on the basis of the Whitepaper or the Website. The agreement for distribution of KTO and/or continued holding of KTO shall be governed by a separate set of Terms and Conditions or Token Distribution Agreement (as the case may be) setting out the terms of such distribution and/or continued holding of KTO (the Terms and Conditions), which shall be separately provided to you or made available on the Website. The Terms and Conditions must be read together with the Whitepaper. In the event of any inconsistencies between the Terms and Conditions and the Whitepaper or the Website, the Terms and Conditions shall prevail.

Deemed Representations and Warranties: By accessing the Whitepaper or the Website (or any part thereof), you shall be deemed to represent and warrant to the Company, the Distributor, their respective affiliates, and the KorthoChain team as follows:

- (a) in any decision to acquire any KTO, you shall not rely on any statement set out in the Whitepaper or the Website;
- (b) you will and shall at your own expense ensure compliance with all laws, regulatory requirements and restrictions applicable to you (as the case may be);
- (c) you acknowledge, understand and agree that KTO may have no value, there is no guarantee or representation of value or liquidity for KTO, and KTO is not an investment product nor is it intended for any speculative investment whatsoever;
- (d) none of the Company, the Distributor, their respective affiliates, and/or the KorthoChain team members shall be responsible for or liable for the value of KTO,

the transferability and/or liquidity of KTO and/or the availability of any market for KTO through third parties or otherwise; and

(e) you acknowledge, understand and agree that you are not eligible to participate in the distribution of KTO if you are a citizen, national, resident (tax or otherwise), domiciliary and/or green card holder of a geographic area or country (i) where it is likely that the distribution of KTO would be construed as the sale of a security (howsoever named), financial service or investment product and/or (ii) where participation in token distributions is prohibited by applicable law, decree, regulation, treaty, or administrative act (including without limitation the United States of America, Canada, and the People's Republic of China); and to this effect you agree to provide all such identity verification document when requested in order for the relevant checks to be carried out.

The Company, the Distributor and the KorthoChain team do not and do not purport to make, and hereby disclaims, all representations, warranties or undertaking to any entity or person (including without limitation warranties as to the accuracy, completeness, timeliness, or reliability of the contents of the Whitepaper or the Website, or any other materials published by the Company or the Distributor). To the maximum extent permitted by law, the Company, the Distributor, their respective affiliates and service providers shall not be liable for any indirect, special, incidental, consequential or other losses of any kind, in tort, contract or otherwise (including, without limitation, any liability arising from default or negligence on the part of any of them, or any loss of revenue, income or profits, and loss of use or data) arising from the use of the Whitepaper or the Website, or any other materials published, or its contents (including without limitation any errors or omissions) or otherwise arising in connection with the same. Prospective acquirors of KTO should carefully consider and evaluate all risks and uncertainties (including financial and legal risks and uncertainties) associated with the distribution of KTO, the Company, the Distributor and the KorthoChain team.

KTO Token: KTO are designed to be utilised, and that is the goal of the KTO distribution. In fact, the project to develop KorthoChain would fail if all KTO holders simply held onto their KTO and did nothing with it. In particular, it is highlighted that KTO:

(a) does not have any tangible or physical manifestation, and does not have any intrinsic value (nor does any person make any representation or give any commitment as to its value);

(b) is non-refundable and cannot be exchanged for cash (or its equivalent value in any other digital asset) or any payment obligation by the Company, the Distributor or any of their respective affiliates;

(c) does not represent or confer on the token holder any right of any form with respect to the Company, the Distributor (or any of their respective affiliates), or its revenues or assets, including without limitation any right to receive future dividends, revenue, shares, ownership right or stake, share or security, any voting, distribution, redemption, liquidation, proprietary (including all forms of intellectual property or licence rights), right to receive accounts, financial statements or other financial data, the right to requisition or participate in shareholder meetings, the right to nominate a director, or other financial or legal rights or equivalent rights, or intellectual property rights or any other form of participation in or relating to KorthoChain, the Company, the Distributor and/or their service providers;

(d) is not intended to represent any rights under a contract for differences or under any other contract the purpose or pretended purpose of which is to secure a profit or avoid a loss;

(e) is not intended to be a representation of money (including electronic money), security, commodity, bond, debt instrument, unit in a collective investment scheme or any other kind of financial instrument or investment;

(f) is not a loan to the Company, the Distributor or any of their respective affiliates, is not intended to represent a debt owed by the Company, the Distributor or any of their respective affiliates, and there is no expectation of profit; and

(g) does not provide the token holder with any ownership or other interest in the Company, the Distributor or any of their respective affiliates.

Notwithstanding the KTO distribution, users have no economic or legal right over or beneficial interest in the assets of the Company, the Distributor, or any of their affiliates after the token distribution.

To the extent a secondary market or exchange for trading KTO does develop, it would be run and operated wholly independently of the Company, the Distributor, the distribution of KTO and KorthoChain. Neither the Company nor the Distributor will create such secondary markets nor will either entity act as an exchange for KTO.

Informational purposes only: The information set out herein is only conceptual, and describes the future development goals for KorthoChain to be developed. In particular, the project roadmap in the Whitepaper is being shared in order to outline some of the plans of the KorthoChain team, and is provided solely for INFORMATIONAL PURPOSES and does not constitute any binding commitment. Please do not rely on this information in deciding whether to participate in the token distribution because ultimately, the development, release, and timing of any products, features or functionality remains at the sole discretion of the Company,

the Distributor or their respective affiliates, and is subject to change. Further, the Whitepaper or the Website may be amended or replaced from time to time. There are no obligations to update the Whitepaper or the Website, or to provide recipients with access to any information beyond what is provided herein.

Regulatory approval: No regulatory authority has examined or approved, whether formally or informally, any of the information set out in the Whitepaper or the Website. No such action or assurance has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction. The publication, distribution or dissemination of the Whitepaper or the Website does not imply that the applicable laws, regulatory requirements or rules have been complied with.

Cautionary Note on forward-looking statements: All statements contained herein, statements made in press releases or in any place accessible by the public and oral statements that may be made by the Company, the Distributor and/or the KorthoChain team, may constitute forward-looking statements (including statements regarding the intent, belief or current expectations with respect to market conditions, business strategy and plans, financial condition, specific provisions and risk management practices). You are cautioned not to place undue reliance on these forward-looking statements given that these statements involve known and unknown risks, uncertainties and other factors that may cause the actual future results to be materially different from that described by such forward-looking statements, and no independent third party has reviewed the reasonableness of any such statements or assumptions. These forward-looking statements are applicable only as of the date indicated in the Whitepaper, and the Company, the Distributor as well as the KorthoChain team expressly disclaim any responsibility (whether express or implied) to release any revisions to these forward-looking statements to reflect events after such date.

References to companies and platforms: The use of any company and/or platform names or trademarks herein (save for those which relate to the Company, the Distributor or their respective affiliates) does not imply any affiliation with, or endorsement by, any third party. References in the Whitepaper or the Website to specific companies and platforms are for illustrative purposes only.

English language: The Whitepaper and the Website may be translated into a language other than English for reference purpose only and in the event of conflict or ambiguity between the English language version and translated versions of the Whitepaper or the Website, the English language versions shall prevail. You acknowledge that you have read and understood the English language version of the Whitepaper and the Website.

No Distribution: No part of the Whitepaper or the Website is to be copied, reproduced, distributed or disseminated in any way without the prior written consent of the Company or the Distributor. By attending any presentation on this Whitepaper or by accepting any hard or soft copy of the Whitepaper, you agree to be bound by the foregoing limitations.

Risk statement

The Kortho Foundation believes that there are countless risks in the development, maintenance and operation of KTO and other cryptocurrency and blockchain systems, many of which are beyond the control of the Kortho Foundation. In addition to the other content described in this white paper, each KTO exchanger should also read, understand and carefully consider the following risks before deciding whether to participate in this public exchange plan.

Every KTO exchanger should pay special attention to this fact: Although the Kortho Foundation is established in the Republic of Singapore, the exchange can be exchanged anywhere in the world through the Internet. KorthoChain is not responsible for whether the exchange behavior of the exchange is in compliance with local laws. Should confirm and bear the relevant impact.

Participating in the public exchange of KTO should be a well-thought-out decision-making action. The Kortho Foundation will consider that the exchange is fully aware of and agrees to accept the risk.

Kortho Foundation



www.kortho.org



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