Ink Whitepaper

What is Ink?

Overview

Ink is a decentralised solution harnessing the combined power of Consortium Blockchain, Public Blockchain and Cross-chain Interoperability for the global Creative Industry. It consists of

- **Sovereign Consortium Blockchain for use cases in any region**
- **Infrastructure for decentralised content production**
- **Token issuance, applications and ecosystem based on a globally renowned public blockchain**
- **Intellectual Property Asset Exchange**
- **Cross-chain Protocol, technical and business solution for industrial implementation**
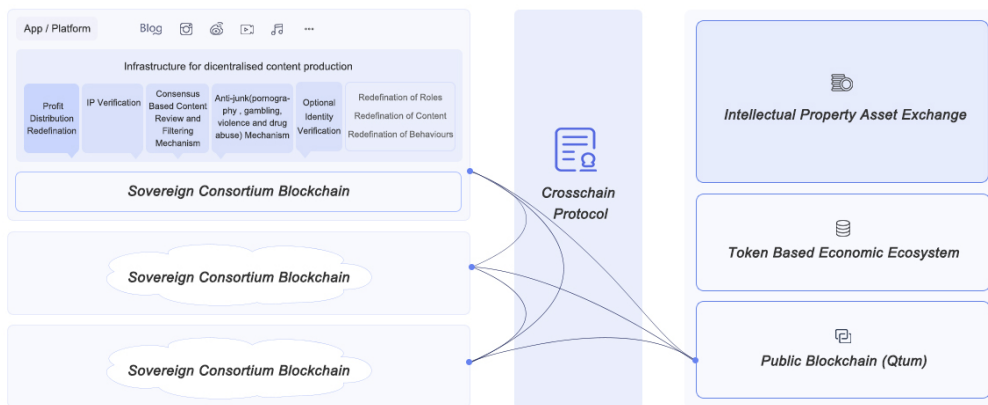
The vision of Ink is to provide Sovereign Consortium Blockchain to different use cases, to redefine roles, content and behaviours within the industry, and to build for the Creative Industry a decentralised infrastructure in which various applications can be created and correlate to each other under one highly integrated system. Based on a credible and stable public blockchain, an Intellectual Property Asset Exchange is built as a trusted corridor for content-to-liquid-asset conversion and token issuance, making it an integrated ecosystem. Furthermore, defining and developing the cross-chain protocol enables value and information to flow freely between public blockchain and consortium blockchain.

Why do we need Ink?

Pressing Issues in the Creative Industry and Urgent Demand for Cross-chain Protocol

■ **The chemistry of "Original Content (IP) + Internet" has led to continual innovation and advancement in the industry model. The scale of the Creative Industry has been consistently growing. Along the way, however, it also brings many problems and challenges.**

The Creative Industry is an industry with a long history. It is also an industry that is highly vibrant and innovative, and an industry with endless breakthroughs.

"The world is flat". Driven by internet technology and ideology, the Creative Industry has undergone tremendous changes. Traditional industry models were shattered one after another. New digital contents or digital models, such as internet literature, short video clips, live streaming and paid knowledge emerged continuously. In this new era of internet technology, every person can be a content producer, discoverer, disseminator and consumer.

Along with these breakthroughs and innovations, the market of the Creative Industry has grown tremendously. The values of quality IPs are utilised and amplified to a much greater extent. From one quality IP, it is possible to construct an enormous, composite and diversified economic system comprising movies, copyright sales, advertisements, games and other derivatives. The total market potential can be several billion dollars.

The Creative Industry is undoubtedly a gigantic and promising global market that will maintain its strong growth as society and technology continue advancing.

However, the rapid advancement of IP also brings inevitable challenges to the field. Due to outdated basic infrastructure, severe information asymmetry and centralized governance doctrine, the Creative Industry has been confronting many problems,

  ↘ **Unclear Ownership** Due to unclear ownership, many quality IP and content are not able to incubate effectively. Disputes are frequent.

  ↘ **Inadequate Data Authenticity** Such inadequacy often leads to unfair distribution of proceeds, which greatly frustrates the motivation and creativity of quality content creators.

  ↘ **Centralised Governance of Publishing, Distribution and Platform Management**

Centralised governance results in various problems, such as inferior contents being marketed as premium products, unfair allocation of resources, hostile environment for young creators, and quality content and IP being neglected.

↘ **Immense Difficulty to Convert Original Contents to Liquid Assets** Majority of the creators need a faster and more direct channel to convert their work into cash or cash equivalent.

↘ **Inadequacy in Ecosystem and Infrastructure in the Industry** Due to this problem, there has been inadequate exploitation, creation and liquidity of value in the Creative Industry. Except for a small fraction of top-notched IPs, many quality content in the upper intermediate category are only utilized once and the utilization tends to be very elementary. As such, their potentials are not fully tapped into.

The above problems often manifest into two major complaints: unfair distribution of proceeds and irrational operation of the system.

Ink seeks to solve these problems. Through our development of the blockchain-based content generation, discovery, circulation, consumption, investment, commercialization system and related ecosystem, we can effectively tap into the various advantages of the blockchain technology. Our platform will ensure fairer distribution of proceeds and more rational operation of the industry. Ultimately, we will provide a new, comprehensive and capacious ecosystem for all original contents.

■ **The booming of the blockchain sector has created both prosperity and many isolated islands of value and data. Cross-chain integration has become an obvious and imminent challenge that we need to take head on.**

In the age of the world wide web, there is only one thin layer of protocols through which people make compromises and reach limited agreements. Tremendous amount of applications, on the other hand, can actually be built to tackle most common issues in our society. We have witnessed unified solutions for general needs, such as those from Microsoft, Amazon, Uber and Google. These giants, however, has also created overwhelming monopoly in the web and even somewhat invasive ideal for all to subscribe.
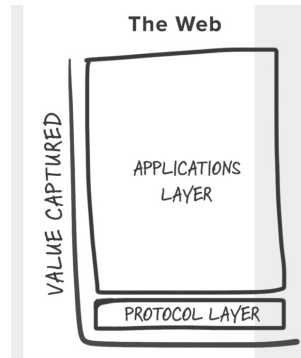
In the age of the blockchain, every person is able to devise a unique protocol and shoot for the stars. This reflects a world of individualism and diversity. Blockchain has made co-existence of different values a reality. In the early stage of blockchain, major development work on blockchain technology is on the architecture layer. A protocol bridging different blockchains is of great value. Only when cross-chain protocol between major blockchain networks is established, super applications can be developed. This marks the dawn of blockchain, and cross-chain protocol will be the beginning of this evolution.
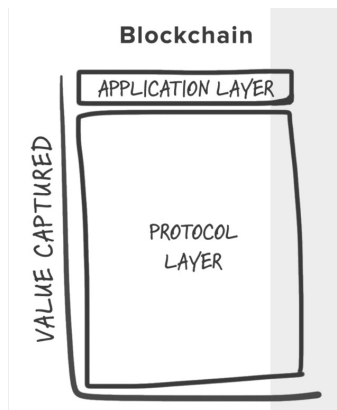
In the roadmap of Ink, the flow of value and information in crosschain is an indispensable feature. On the other hand, Team Ink also seeks to provide our own solution on crosschain as well as structures that can integrate with enterprise solutions. We see this as our contribution and deep appreciation to the blockchain community. It also paves the path for more business opportunities in the future.

How does Ink solve problems?

PART A- A trusted consortium blockchain solution for regional use cases and the infrastructure for a decentralised Creative Industry

- A trusted consortium blockchain solution for regional use cases

- Technical selection of Ink: public blockchain vs. Sovereign Consortium Blockchain

In recent years, blockchain technology has attracted exponentially growing attention in the field. This trend is owing both to the increasingly powerful decentralised general computing capability of the public blockchain, and to the introduction and application of the technology by the professionals in the circle of traditional mainstream technology.

Cryptocurrency, spearheaded by Bitcoin, provided the experimental prototype for the principle of the blockchain technology. Smart contract platform, spearheaded by Ethereum, extends the application of blockchain. Permissioned consortium blockchain, spearheaded by Hyperledger Fabric, opened up a completely new arena for the application of blockchain in enterprise. The blockchain is no longer a mere toy for the geeks. It can integrate with mainstream technology system and make its way into enterprise applications. Hyperledger Fabric, for example, realized the identity management mechanism needed under enterprise scenarios. It also substantially integrates the current technological advancement in the fields of distributed computing and security, and provides a series of service and security enhancement for the distributed ledger platform.

Projects on application of blockchain often face the problem of choosing the platform technology. Leveraging a public chain is relatively simple. By encouraging the participants to maintain the blockchain through incentive mechanism, it is endowed with a conducive ecosystem. However, it often suffers from poor performance and lack of permission control, and the information is completely visible to the public. The permissioned consortium blockchain is more applied in the context of business consortium, assuming that there are certain trust premise and interest constraints among the participating parties. The permissioned consortium blockchain tends to compromise on the design of decentralization and accessibility, in exchange for improvement of performance and safety.

The legacy rules of the global Creative Industry are complicated. A collection of social and technical factors must be considered, including law, culture, region, industry, extensibility, security and stability. To establish a cross-region blockchain, Ink must make sure all the criteria below are met:

- Regional differences in law, regulation, and culture

■ Special requirements for industry and business scenarios

■ Optimised governance mechanism of multi-centre collaboration

■ Performance requirements for throughput, latency and others

■ Accessibility

■ Security and privacy

■ System adjustment and failure recovery

After going through these complex factors, we found that the existing single-type blockchain platform cannot meet the above requirements simultaneously. The question for us is no longer "selecting an appropriate public or consortium blockchain solution", but "designing a completely new set of technical solution in light of the stringent requirements to support the business scenario".

Ink has put forward the concept of "trusted Sovereign Consortium Blockchain for regional use cases", which is essentially a consortium blockchain that operates within a specific sovereignty. The structure makes it easier to deal with problems originating from different legal frameworks and different regulatory policies. At the same time, Ink focuses on the Creative Industry. The content has a strong cultural attribute. Due to difference in race, history and geographical locations, different parts of the world have markedly different and cultures. Therefore, a consortium blockchain for a specific area and culture will enjoy native and inherent convenience when providing industrial services.

Despite its native advantages, the "trusted Sovereign Consortium Blockchain for regional use cases "is not a local, simple and isolated solution design. It is part of the Ink solution that is comprehensive, systematic and well-conceived. It integrates with the "Qtum-based Intellectual Property Asset Exchange, and its corresponding token and ecosystem "and "Ink Cross-chain Protocol" to form a complete solution. The last two will be covered in the later sections of this paper.

■ Major technical breakthroughs in achieving the Sovereign Consortium Blockchain of Ink

Ink's Sovereign Consortium Blockchain is a collection of high-performance permissioned blockchain solutions. Its underlying technical framework follows the standards of the Hyperledger project. Aiming at generic application scenarios in a specific geographical region (such as the Creative industry in China), it comes with a series of customisation and enhancement.

The Ink consortium blockchain also uses the digital certificate mechanism recommended by the industry to realise identification and permission control. The CA node implements the PKI service. It can issue identity certificate in advance, send it to the corresponding entities. At the same time, the Ink consortium blockchain can control different entities' access level of data and resources through fine-grained policy. This solves the question, "when can someone take a particular action under a particular condition".

■ **Ink Account**

Ink consortium blockchain has designed and implemented an account system that can cater to a large number of anonymous users (from public blockchain users, or from consumers who are covered by the Sovereign Consortium Blockchain) to manage digital assets and interact directly with the consortium blockchain. This account system is called Ink Account.

Users can generate their own key pairs, through which they can acquire their individual Ink Account and the corresponding address. The same account can hold multiple token assets or initiate transactions (either sending tokens or invoking the chaincode, aka smart contract in Fabric) in the name of the account under a given permission. The settings for the account are pluggable, and different Sovereign Consortium Blockchains can choose whether to enable the Ink Account as well as which account algorithm (in accordance with bitcoins and Qtum, or in accordance with Ethereum) to use. In addition, Ink consortium blockchain has developed asset system chaincode (ASCC) to manage the token assets on the chain.

The chaincode invocation request initiated in the name of INK Account requires it to meet the specified rules of signature combination (depending on the degree of openness of the consortium blockchain, it can be batch authorisation or shared authorisation), and the requester should use the Ink Account key to sign the invocation contents, including Channel, ChaincodeSpec, transaction counter (for anti-replay attack), etc. The signature will be verified by peers.

■ **Transfer set**

Ink Account seeks to make up for the lack of token and transferring capability in Fabric. A question often raised is "why don't we directly develop account and token mechanism based on chaincode?" The key to the question is largely related to the limitations of chaincode. In addition to the imperfection of current cross-chaincode invocation support, another problem that needs to be highlighted is the verification mechanism based on read-write set and multi-version concurrency control (MVCC). Specifically, the basic capabilities provided by the chaincode in Fabric are to read and write the world state. The endorser nodes simulate the execution of the transaction and returns the read-write set as the result. After the recent transactions are ordered by order nodes, the committer nodes need to verify the transaction batch based on MVCC. If a transaction performs a write operation in the verification process, the current version of all states in the read set must be consistent with the version when executing the endorsement. Otherwise, the transaction will be marked as illegal. This is a concession to consistency. A typical consequence is that for a basic operation of token transfer, one account can be operated only once by the transactions in one block.

To tackle the above problems, the Ink Consortium Blockchain has designed and implemented another type of state operation mode for the Ink Account and token assets besides the read-write set. The mode is called transfer set, and it is used to record the transfer operations between accounts. Transfer operations only cause the increase or decrease of the corresponding account values, thus the validation of transfer set is not as strict as that of read-write set. Based on the transfer set, the Ink Consortium Blockchain supports multiple transfer-in or transfer-out transactions of the same account in the same batch of transactions. For chaincode development, a number of interfaces have been added to ChaincodeStubInterface, allowing developers to use these capabilities flexibly.

■ **SDK and Blockchain-as-a-Service Platform**

The Ink Sovereign Consortium Blockchain will provide gPRC API to applications, and SDK that encapsulates API for use by the applications. Through SDK, applications can access a wide array of resources in the Ink Sovereign Consortium Blockchain network, such as accounts, transactions, ledgers, smart contracts, events (generated by smart contracts and block commitments), etc. The SDK will also provide functions related to the Creative Industry, including IP registration, verification, etc. SDK will include both NodeJs and Python versions in the early stage.

For developers and testers of blockchain community applications, to build a distributed ledger solution is not an easy task. It requires both hardware infrastructure and a full range of development and operation management. Ink Sovereign Consortium Blockchain will release a fully open Blockchain-as-a-Service (BaaS) platform, which will provide one-stop functions including the establishment of test network, visualization of distributed ledger content, smart contract development and testing, network monitoring and analysis, etc. The blockchain simulation environment provided by the BaaS platform will be very close to real-world application scenarios so that developers can easily migrate their fully-tested business models to the main chain.

In addition, the Ink Sovereign Consortium Blockchain inherits all the superior features of Hyperledger Fabric, and it carries a series of innovative designs, such as incentive mechanisms, off-chain content storage improvement, as well as cross-chain interoperability, which will be elaborated in the following section. In short, it is a complete, robust and well-designed permissioned consortium blockchain solution.

■ **Infrastructure for Decentralised Creative Industry**

"Infrastructure for decentralised content production "is a set of industry blockchain infrastructure built on the Ink Consortium Blockchain. It provides a range of specific capabilities for content production, enabling people to build various powerful and decentralised applications based on this infrastructure.

■ Basis for Changes

Due to the structure of blockchain, smart contract and their related unique ecosystem, decentralised applications set up on such basis can tap into smart contact, thereby **acquiring the capability to define rules and subsequently changing the ways that proceeds is being distributed.**

■ The Changes

■ **Redefine roles.** Decentralised model redefines roles in the Creative Industry. Many redundant intermediate roles will cease to exist or be significantly weakened. Only two prominent roles remain in the industry, the creator and the end user. The proceeds are also redistributed rationally between these new roles.

■ **Redefine contents.** Through smart economic model and rules, free contents will be largely eliminated. All content behaviours will be redefined as economic behaviours. Consumption of contents will be done through either payment or recipient of fees— even a minimal fee. Free contents are therefore eliminated. This will also eliminate spam contents from the ecosystem.

■ **Redefine behaviours.** All user actions including likes, comments, reposts and other behaviours will cast effects on the content in two aspects. From the perspective of content, it will either enhance or weaken the dissemination of content, thus creating a new, decentralised content dissemination and distribution mechanism. From the perspective of users, behaviours will have effects on themselves. It will either increase or decrease the user's score of connoisseurship. Endorsement node in the consensus system plays an important role in this process. Behind those behaviours are corresponding economic mechanism. For example, positive contributions will be rewarded while negative or meaningless interaction will result in a certain cost.

■ Basic features and services

■ **Content Ownership Verification.** Based on tamperproof and timestamp features of blockchain, it can provide services on ownership statement and right protection.

■ **Optional Real-name Identity.** Provide basic services of real-name system (including identity authentication, confirmation services, etc.). For different content applications or scenarios, users can choose between real name and pseudo name. However, not choosing this option will result in different levels of authority or restriction.

■ **Consensus-based content review and filtering mechanism.** Content auditing and filtering exists primarily in the endorsement process of the consensus protocol, providing a semi-open capability that allows the endorsement node to deploy rules and strategies of specific content auditing and filtering in a controlled and auditable manner.

■ **Anti-spam mechanism**. Through the redefinition of content, free contents are

eliminated. All interactions with the contents are economic behaviours. This will naturally eliminate piracy, plagiarism and any spam involving pornography, gambling, violence and drug abuse.

■ Vision

Based on changes made to established rules and provisions that enable technology. We anticipate to see a Creative Industry where,

In a decentralised ecosystem, **"discovery" and "dissemination" of contents are done mainly by users and rules based on credible smart contracts.** As the system is driven by transparent and redesigned proceeds distribution mechanism, it will operate in a rational manner.

All **intermediate processes will be replaced by a large number of automated smart contracts, and efficiency will be drastically improved**. Redundant interference and loss of value, on the other hand, will be eliminated.

Artists and creators can henceforth focus on creating contents, and strive for self-fulfilment and self-expression. The value of the creation will be returned to the creator in a reasonable way.

How does Ink solve the problems?

PART B – Qtum-based Intellectual Property (IP) Asset Exchange and Corresponding Tokens and Ecosystem

■ **Intellectual Property (IP) Asset Exchange**

Qtum-based Intellectual Property Exchange is an important industry-level public blockchain application. It mainly includes the following parts, which jointly support the business system of liquidity and exchange of intellectual property:
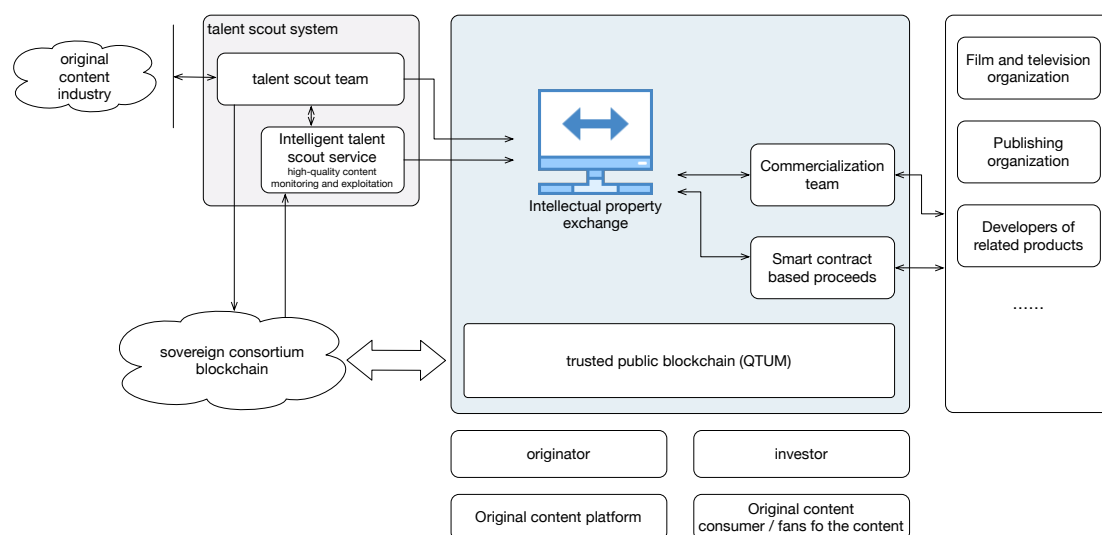
- ■ **Talent scout system.** Its core value is to efficiently explore high-potential original content through technical means and experts. The system consists of two parts, talent scout team and intelligent talent scout service. The former utilises the experience of industry experts, and the latter takes advantage of technology and big data. The scout team and the scout service will coordinate with each other.
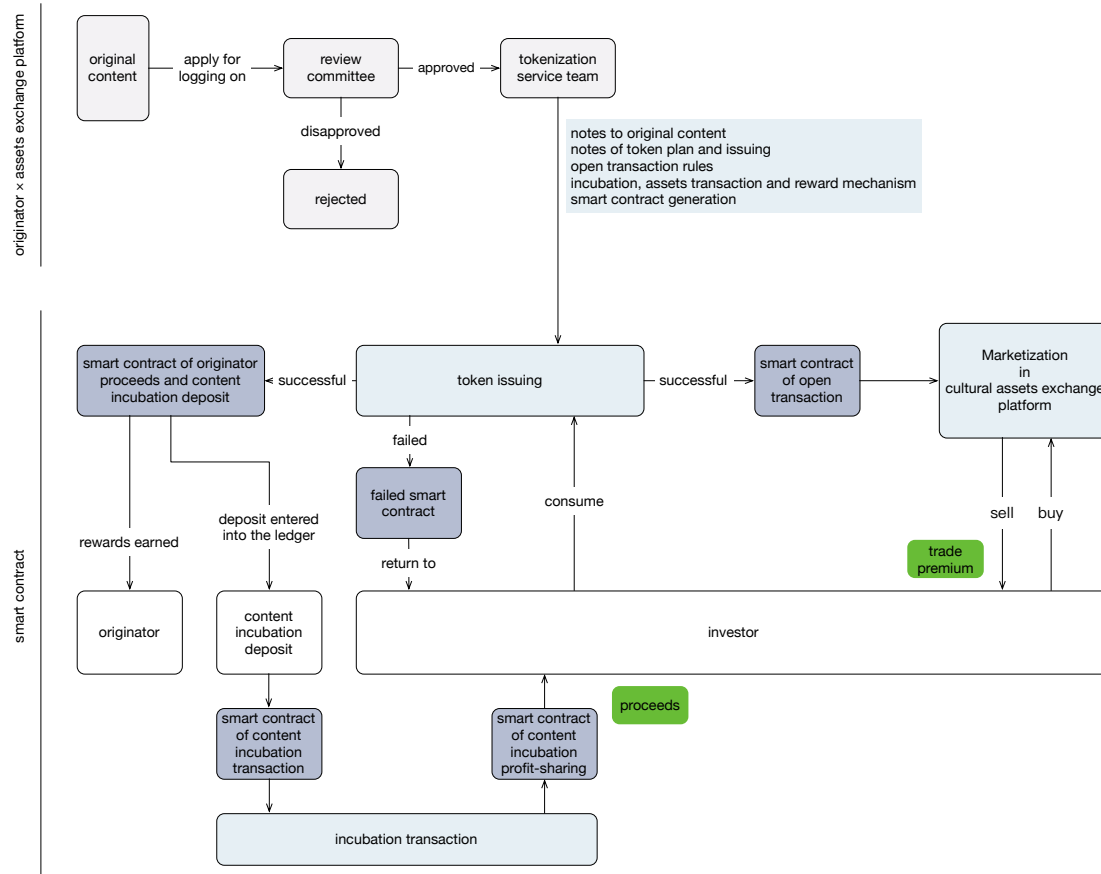
- ■ **Intellectual Property Asset Exchange.** It realises securitized transaction of intellectual property through the use of tokens;

- ■ **Commercialisation and Proceeds System.** It includes the commercialisation team in the Ink business system and proceeds mechanism based on smart contracts. The commercialisation team have two functions. First, to supervise all the incubations and transactions of intellectual properties on the Intellectual Property Asset Exchange. This serves to protect the ecosystem and the interest of the investors. Second, to promote, explore and provide service to the commercialisation of intellectual property. Proceeds mechanism is realised based on smart contracts. These smart contracts have been designed and completed during the phase of intellectual property tokenisation.

■ Other relevant participants, including content platforms, artists and creators, investors, consumers/fans, film studios, TV stations, publishing houses, and manufacturers on the blockchain and off the blockchain.

■ Core Value of Intellectual Property Asset Exchange

■ To realize securitized transactions of intellectual properties

■ To become a key Qtum-based virtual space and linkage that connects various Sovereign Consortium Blockchains, as well as their applications, original content, and upstream and downstream industry.

■ By connecting with the Sovereign Consortium Blockchain and its applications, the platform is able to integrate investment of reading or other similar content consumption scenarios. It can therefore connect quality IP with a broad, highly relevant and highly professional investor group.

■ With blockchain technology and smart contracts, the platform will be able to realise mass-scale cutting of ownership, transfer process tracing and proceeds management. Investment in intellectual property can therefore be done in small amount, and be accessible and affordable to common people.

The advantages are as follows: the content can be converted to liquid asset and the content creator can receive the proceeds at an earlier stage. With broad investment from the public, high-quality content can stand out more easily. Moreover, funds and digital assets will be better integrated. It is more conducive for long-term and diversified commercialisation.

■ Working Mechanism of the IP Asset Exchange

The graph above illustrates the core working mechanism and the flow of the Intellectual Property Asset Exchange. It includes the following processes:

■ Application for original content to be launched on the exchange.

■ A weakly centralized review will be conducted on the launch. The work will be carried out by the "Review Committee". The current plan is to select the committee members from Ink's management team as well as from members of Talent Scouts and investors.

■ Preparation for intellectual property tokenisation will be accomplished through the collaboration between the "Tokenisation Service Team" and the content creator. Service Team comprises two groups of people. One group are the permanent staffs of the platform. The other group are volunteers from the Ink community and investors.

■ Intellectual property tokens to be issued.

■ Transaction through Intellectual Property Asset Exchange.

■ Intellectual property incubation transaction and proceeds distribution.

■ **Token and Ecosystem**

Ink will issue INK token based on Qtum. INK is defined as a utility token. As an essential economic medium, INK will be used under many scenarios, such as all economic behaviours in the Creative Industry, key

applications and services in the Ink ecosystem including IP registration & verification, IP Assets Exchange, etc. The total number of INK is one billion.

■ **Other Considerations and Possibilities for Business Operation**

■ Global IP Ecosystem

Ink employs Sovereign Consortium Blockchain for specific culture circle as its carrier of industry applications. It provides services to the Creative Industry in China, Korea, Thailand and other countries, and it offers multiple Sovereign Consortium Blockchains. At the same time, Ink is an open system. In the US, Europe and other regions, Ink endeavours to collaborate with other blockchain solution providers in the Creative Industry to establish a "Global IP Ecosystem".

■ More Possibilities for Intellectual Property Asset Exchange

Ink has many more considerations on the business operation of the Intellectual Property Asset Exchange. First, the design of Ink will feature "primary and secondary sections". When an original content is launched on the platform for the first time, it will be evaluated based on various factors such as quality, commercial value and audience size to decide which section it will land. Second, we consider designing a "promote/demote board" and an "exit mechanism". According to the performance of transactions and market feedbacks, a specific IP can be promoted or demoted to the other section or exit the board according to a set of rules. In addition, considering the different legislation and compliance of different regions and relevance to the traditional financial system, London, Tokyo or Seoul would be more viable choices for the location of the exchange.

How does Ink solve the problems?

Part C –Ink cross-chain protocol

Ink cross-chain protocol is one of Ink's major contributions to the blockchain world. It plays an important role in the current plan of Ink.

For consortium blockchain distributed under various sovereignty frameworks, the capability of cross-chain interaction is key to realise the Internet of Value. The public blockchain (Qtum), sitting at the very heart of the Ink ecosystem, becomes a natural bridge for transfer of value and information.

In the early days, side-chain solutions such as two-way peg had contributed to extending the scalability of bitcoin. Later, smart contract platforms such as Ethereum provided more possibilities to cross-chain interaction scenarios and protocols. Some delicate projects like BTC Relay enabled Ethereum DApp developers to verify the bitcoin network activities via smart contract. Other projects aimed to realise the "Internet of Blockchains". For instance, Cosmos and Polkadot are seeking to realise cross-chain value transfer or global consensus through hub or relay mechanism. Till date, most efforts made in cross-chain interoperability either remain in the early stage or are restricted to the domain of public blockchain. The latter is due to the immature development of consortium blockchain as there has been a lack of conducive environment for exploration and testing.

As Ink Sovereign Consortium Blockchain prospectively extend Fabric to support multi-asset account and token, the problems mentioned above will be solved. We devote to realise the interoperability of Ink Sovereign Consortium Blockchain and Qtum as it is a key process for the Ink ecosystem to thrive.

The realisation of interoperability will benefit from the following two aspects. First, as highly versatile general smart contract platforms, both the Ethereum Virtual Machine (EVM) supported by Qtum and the chaincode supported by Ink Consortium Blockchain have flexible and powerful capability of expression. Second, Ink consortium blockchain itself provides and also relies on the identity management and access control mechanisms. Therefore, cross-chain operations can rely on multiple trustworthy endorsers just as the transactions do, without extra premise on the trust of the consortium system.

On the side of the consortium blockchain, the whole consensus process is decoupled into transaction endorsement, ordering and validation. The operation is performed by different network nodes. Further, we introduce cross-chain relay endorsement. The network nodes in charge of cross-chain relay need to independently query and verify the cross-chain operation event on Qtum as well as the corresponding state value (and ensure fair finality). They are also responsible to sign the legal cross-chain operation

proposals of the consortium blockchain side. Just as the transaction endorsement policy set for instantiated chaincode, relay endorsement policy is also needed for cross-chain operations. Specifically, SignaturePolicy structure can be applied to specify the valid relay endorsements, forming any complicated signature combination. For instance, "OR ('Org1.member', AND ('Org2.member', 'Org3.member')" indicates that the condition of the policy can be met with the signature of an Org1 member or with the signatures of both Org2 and Org3 members.

On the Qtum side, the consortium blockchain in need of cross-chain interoperability will be registered via smart contract. Basic information and the current relay endorsement policy are recorded, and the triggering of the contract terms also needs to satisfy the specified signature combination.

■ Use cases

We first show the most direct use case. For a number of IP asset token issued based on Ink-standard on Qtum, a token holder can transfer part of the tokens safely to a certain Ink Sovereign Consortium Blockchain through cross-chain protocol, in order to receive specific IP services in the Sovereign Consortium Blockchain. The part of tokens on the consortium blockchain can circulate freely by means of direct transfer or triggering smart contracts. Users can transfer the tokens back to Qtum securely when needed.

There are more possible use cases of Ink cross-chain protocol, by any stretch of the imagination. It includes, but is not limited to, cross-chain oracle and contract interoperability. The cross-chain protocols will be abstracted by the SDK and BaaS service of Ink Sovereign Consortium Blockchain. Developers can therefore enjoy the advantages of cross-chain operations without diving into the underlying details. Ink will continue to develop advanced cross-chain solutions with less premise on trust, and keep exploring cooperation with other major cross-chain projects.

Economic Model

Community Application Support, Content Ecosystem Incentive, Token Retrieving Mechanism

Ink will issue INK tokens based on the QRC-20 standard of Qtum Blockchain. INK is defined as a utility token. As an essential economic medium, INK will be used under many scenarios, such as all economic behaviours in the Creative Industry, key applications and services in Ink ecosystem including IP registration & verification, IP Asset Exchange, etc. The total number of INK is one billion. They will be distributed as follows,

Token Distribution Scheme
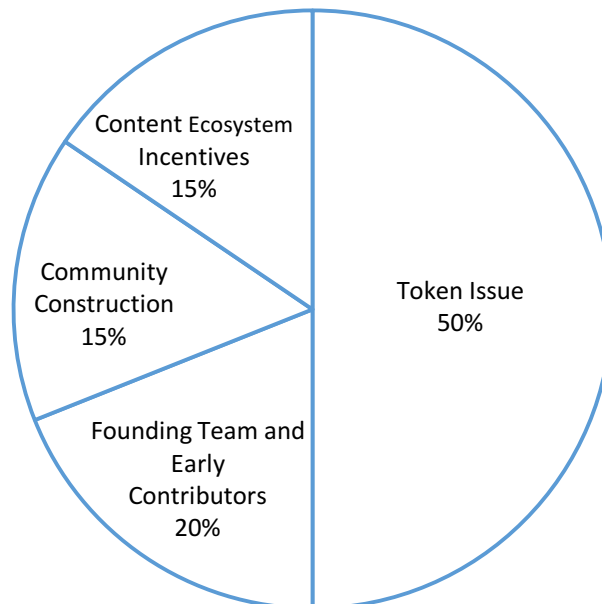
- 500 million (50%) for issuing tokens. The income will be used to support further development of Ink, including technology development, market expansion, legal advice, IP investment, etc.

- 200 million (20%) for founding team and early contributors who provided resources and technological support to Ink at very early stage.

- 150 million (15%) for content ecosystem incentive.

- 150 million (15%) for community constructions, including branding, application support, ecosystem construction, etc.

■ **Community Application Support**

A large proportion of the funds raised from issuing tokens will be used to support and incubate decentralised content applications and platforms so as to provide diversified content and use cases to artists and end users. Once the construction of the fundamental facilities is complete, the Ink team will also take part in the development of the applications. It is an important economic policy to give support to community application in the form of funds and capability. Such policy will lead to real prosperity of the system.

■ **Content Ecosystem Incentive Mechanism**

This is another important economic approach. The system will incentivize positive contributions to the ecosystem by awarding tokens. These contributions include content production, commenting, reposting, exchange of flow, etc.

■ **Token Retrieving Mechanism**

Under the content consumption scenario, in the future, IPs will mostly issue their own IP tokens based on INK. Upon successful issuance, the system will keep only a small portion as commission and thereafter destroy the tokens gained from the proceeds. This is equivalent of Ink charging a fee for using the system and then return the benefit to INK holders.

Management

Management structure and risk control
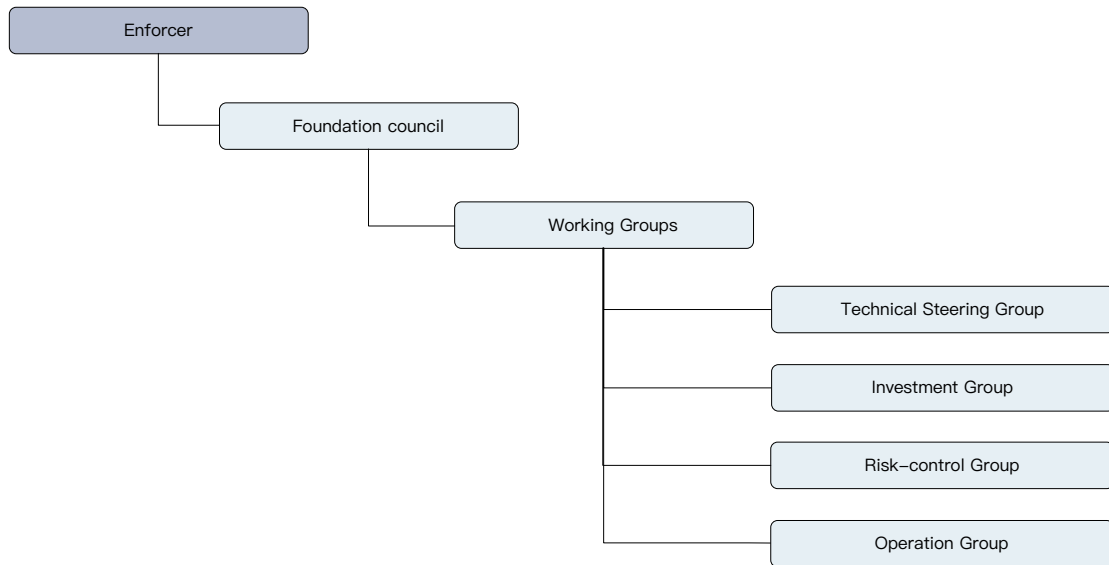
↘   Management structure

As a decentralised international ecosystem and community, Ink will establish a non-profit organisation, INK LABS FOUNDATION LTD, on Singapore. The organisation will govern the technology development and operation of the Ink project, as well as manage and safeguard the digital assets collected for the Beneficiaries, the token holders. INK LABS FOUNDATION LTD has the following management structure:

One 'Enforcer' is responsible for ensuring that the council acts in accordance with the foundation's objects and rules.

One 'Foundation Council' – The Council is the body responsible for the day-to-day administration of the foundation in accordance with the foundation's objects and rules.

Four 'Working Groups' under the four Foundation Council members for each department of INK LABS FOUNDATION's operation.

1.   Technical Steering Group, led by Chief Scientist of the foundation, overseeing the technology development and managing developers' community.

2.   Investment Group, led by a council member, responsible for the sustainability and longevity of Ink projects by making investments, mainly in the works of artists and creators.

3.   Risk-control Group, led by a council member who ensures the foundation is legally and financially sound.

4.   Operation Group, led by a council member who manages the secretary office and the marketing unit for promoting Ink's philosophy.

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       └───│  Foundation council │
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↘ Risk Control

■ Transaction security

Through Consensus protocol, tamperproof, digital signature, encrypted wallets and other safety measures, Ink ensures the safety of end users' accounts and funds. IP Asset Exchange provides the highest level of asset safeguarding technology in the financial industry. Data, application and trading are integrated into Blockchain Cloud, forming a safe network environment.

■ Auditing

  ↘ Ink Council maintains the highest standard of accountability and business ethic.
  ↘ Compliance with laws and regulations in its jurisdiction.
  ↘ Providing transparent financial management;
  ↘ Ink Council will invite a world-renowned audit house to review and evaluate INK LABS FOUNDATION's financial information.
  ↘ Ink Council will invite a world-renowned third-party organisation to audit and evaluate codes.
  ↘ Ink will release the result of these audit and evaluation reports with no reservation.

Team Ink

Walter Komarek Co-founder EU Continent	Walter is the CEO, President and Managing Partner of Forbesfone (the biggest telecom company in Malta). He is also the CEO of Angel Investment. Walter is a well-versed figure in the European telecom market. He is a master in business strategy and business development. He graduated from the University of Salzburg and fluent in German, English and Russian.
Tsukikawa Yuu Co-founder Japan	Yuu is an employee in Recruit. He is an active promoter of blockchain development in Japan. As an early investor of Bitcoin, he maintains long-term cooperation with the largest cryptocurrency trading platform ZAIF in Japan and provides consultancy service. He received double degrees in law from Waseda University and international relations from Peking University He previously worked for HNTV as a TV show host of "Up and up, Young Man!" and "Day Day Up".
Paul Sokolov Core Developer Russia	Paul is an experienced product manager who spearheaded Changelley, one of the biggest integrated crypto exchanges in the world with millions of users. He leads Guarda, a multi-currency crypto exchange mobile wallet. He also developed Chainthis.com, a Blockchain solution for memo and oracle machine.
Alexandr Dorozhkin Core Developer Russia	Alex is an experienced backend developer. He specializes in building web wallets and Block Explorer for Blockchain projects. He also developed RPC protocols of multiple currencies while working on various exchange API and markets data.
Roman Lapin Core Developer Russia	Roman is a young and highly creative coder. He runs a mining pool for over a million active miners.
Alexey Kalina Core Developer Russia	Alexey is a full stack developer. He has built SPV cryptocurrency library for several coins. He is an expert in developing smart contract on Ethereum. He also developed API and provided data analysis service for more than 50 crypto exchanges.

↘   **Investors and Supporters**

Sergei Chmel	Sergei is the Managing Partner of ICOSHARK Hedge Fund. He is also the Founder of Le Genepi Cosmetics, Investment Consultant of Private Equity Fund, and Co-founder and CEO of Virtown.ru.
Alex Kotenko	Alex is the CTO of BlockEx. He is also the Founder of the bitcoin payment system, XBTerminal Ltd.
Bruce Elliot	Bruce is the Director of Boston Multi Family Office, Head of strategy of Cube Limited and Head of Marketing and Business Development of Microgaming Systems, Ltd.
Cameron Chell	Cameron is a Serial Entrepreneur, and the Co-founder and CEO of Business Instincts Group. He is also the Co-founder of Slyce, Draganfly Innovations, Raptor Rig, ColdBore Technologies, UrtheCast, ASP Industry Consortium, Engyro and FutureLink.
Stefano Schiavi	Stefano is the Chief Investment Officer of SCAL and the Chief Technology Officer of Brilliant Already Ltd. His work experience include Web & Software developer of Dev Bootcamp, Options Trader of Violet Jade Holdings. He studied law in the University of Bologna, and he is proficient in Algorithms (design and analysis).

↘ **Legal Team**

Adam Kilip	Adam is an associate in DQ Advocates, the most experienced law form in Blockchain and cryptocurrency space. Adam's practice encompasses a broad range of corporate, commercial and regulatory work including corporate acquisitions and sales, banking and finance transactions, shareholder disputes and insolvency matters.
Aki Corsoni-Husain	Managing Partner of Harneys Law, Cyprus

Ink Roadmap

April, 2016	Ziggurat tech, member of Ink council, received seed-round investment.
October, 2016	Ziggurat IP Asset Management platform (ziggurat.cn) based on blockchain was launched.
December, 2016	The number of original works registered on Ziggurat.cn surpassed 6000. More than 10 partnerships were formed with Ziggurat.
March, 2017	Founding team of Ink established the core mission and roadmap.
April, 2017	Founding team of Ink received million-dollar angel investment, and the project entered a new phase.
May, 2017	Founding team of Ink were invited to the Big Data Expo and signed Strategic Partnership with Guiyang Government in China.
June, 2017	The official Ink team was established, with experts in blockchain, IP incubation, management and operation.
July, 2017	Team Ink received multimillion-dollar Pre-A round financing.
September, 2017	Ink Sovereign Consortium Blockchain entered testing phase.
October, 2017	Whitepaper of Ink to be officially released

November, 2017   Ink to complete international roadshow.

December, 2017   Ink Sovereign Consortium Blockchain is officially online.

January, 2018   Release INK blockchain explorer.

February, 2018   Release official INK wallet.

March, 2018   Beta launch of IP Asset Exchange.

April, 2018   Launch INKubator beta, which supports purchasing crypto IP asset.

May, 2018   Ink Global IP Blockchain network to be launched.

In the future   Ink Blockchain to receive global acclaim.

Epilogue

Ink Protocol is defined as a Ledger where artists register works and generate businesses, an Exchange where arts can be incubated and thrive, and an Ecosystem that advocates original content.

Abstract thinking ignites evolution in mankind. Ink aspires to serve the creators' best interest and guard their intellectual properties.

The finishing line marks a brand-new start!

To learn more, please visit the following:

↘ Official Website: https://ink.one

↘ E-mail: inklabsfoundation@yahoo.com

↘ Ink community:

Telegram (Global):https://t.me/joinchat/GHiS0A7C841w1NbTNwIYIQ

Telegram (Korea): https://t.me/joinchat/Ft0uOA6DN6fYzuM5pQ_oOg

Kakaotalk (Ink Korea)：https://open.kakao.com/o/gyyhHpB

Line (Ink Japan)：

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LinkedIn：https://www.linkedin.com/company/27001961/

Medium：https://medium.com/@inklabsfoundation/

Bitcoin Talk: https://bitcointalk.org/index.php?topic=2328717.0

Reddit: https://www.reddit.com/r/InkLabsFoundation/

↘ Wechat Official Account：InkLabsFoundation

↘ For more information and the updating of the whitepaper on Ink. Please follow us!