



KNOWLEDGE

POWERING DECENTRALIZED KNOWLEDGE SHARING NETWORKS

CONFIDENTIAL WHITEPAPER

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Version 3.0

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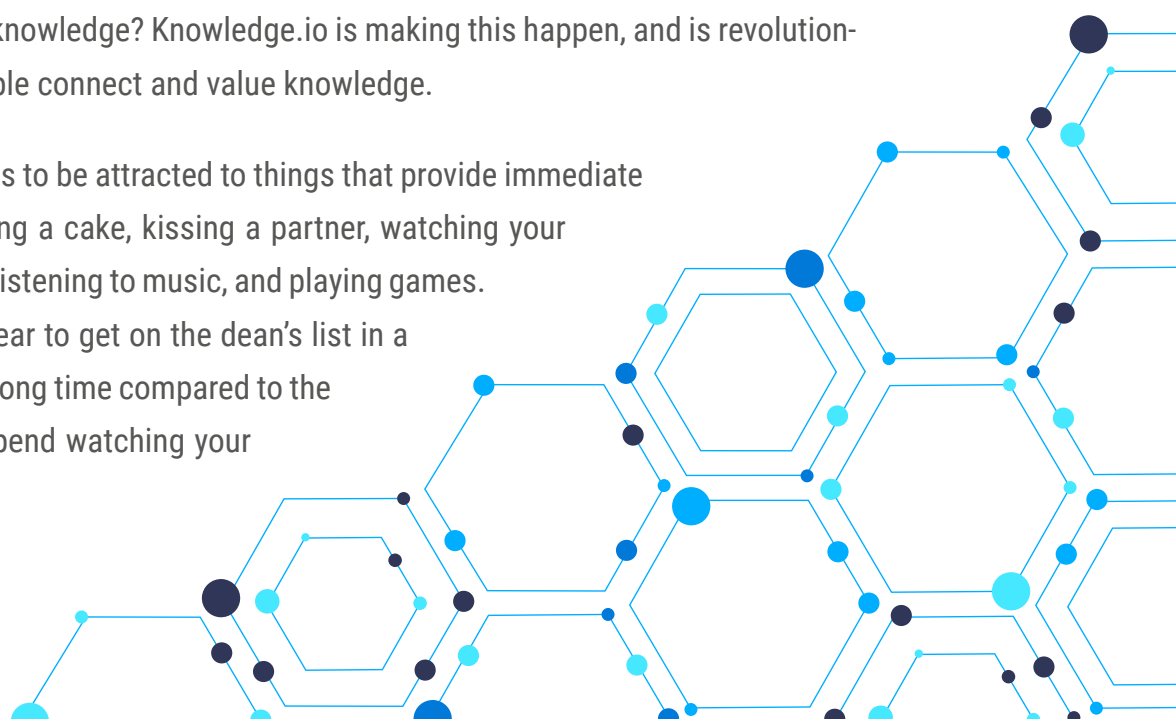
1. VISION

From the day we are born, we are continuously learning. Early on in our lives we learn a wide variety of skills - reading, writing, arithmetic, what we like, what we don't like - somewhere along the way, we are taught that the rewards and benefits for learning and attaining knowledge will be more clear later in life. As a society, we indebt ourselves financially, spending years in schools and colleges accumulating knowledge, and as we progress through our educational journey, we are told knowledge is itself a reward, that knowing something should be reward enough. After many years of formal schooling and attaining knowledge, we realize that the main outcome of this learning, the value of what we know, is financial in nature.

Throughout the entirety of human history, people have celebrated achievement. Today, this is perhaps most visible in professional athletics, where top teams and their superstars receive immense praise, recognition, and rewards. This motivates aspiring players to strive to perform at higher levels, providing role models and goals for people inclined towards competition. Professional sports and similar platforms for celebrating human accomplishment also create downstream fan markets: analysts, reporters, spectators, product developers, marketers and venue, sponsors, and other vested interests all have an emotional and economic stake in the performance of "their" teams. What if this level of enthusiasm were directed towards knowledge? Knowledge.io is making this happen, and is revolutionizing the way people connect and value knowledge.

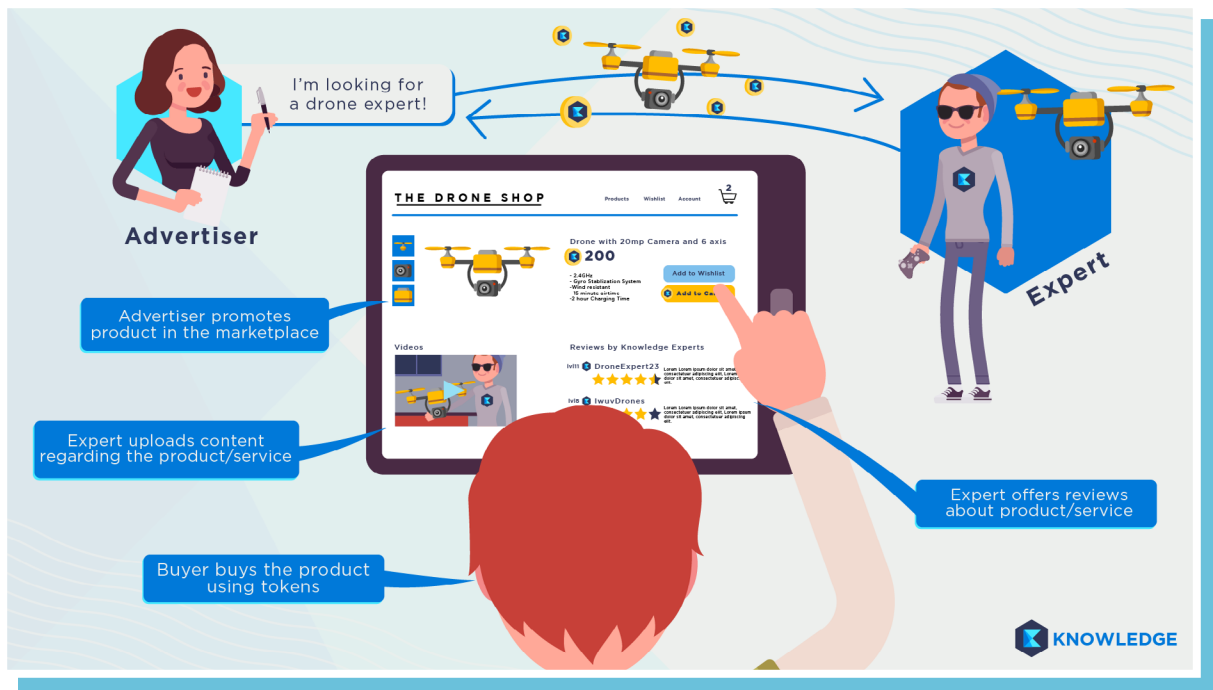
Nature designed us to be attracted to things that provide immediate reward – like eating a cake, kissing a partner, watching your favorite TV show, listening to music, and playing games.

It takes a whole year to get on the dean's list in a college – that's a long time compared to the 30 minutes you spend watching your



favorite tv show. So why is knowledge treated so differently? Why should knowledge be rewarded abstractly, and not directly? The Knowledge.io platform solves this problem by rewarding knowledge and participation with the *Knowledge Token*.

Knowledge.io began as a concept for rewarding and celebrating knowledge. Everyone possesses knowledge, and is shaped through their individual life experiences, but opportunities to share, showcase, and receive the benefit of one's own knowledge can be scarce for most people. Knowledge.io introduces a platform to applaud and reward users for sharing their knowledge. Knowledge.io proposes a platform that will enable its participants to attain an immediate reward and validation through gamified learning, verification of expertise, and cutting-edge ad tech based technology. Knowledge.io is a multifaceted platform with forward thinking crypto technology, creating a user centric approach to information gathering and persona building. Knowledge.io proposes a new frontier in knowledge tracking, verification and validation, and through using reward and incentive models detailed below, attains high levels of engagement.



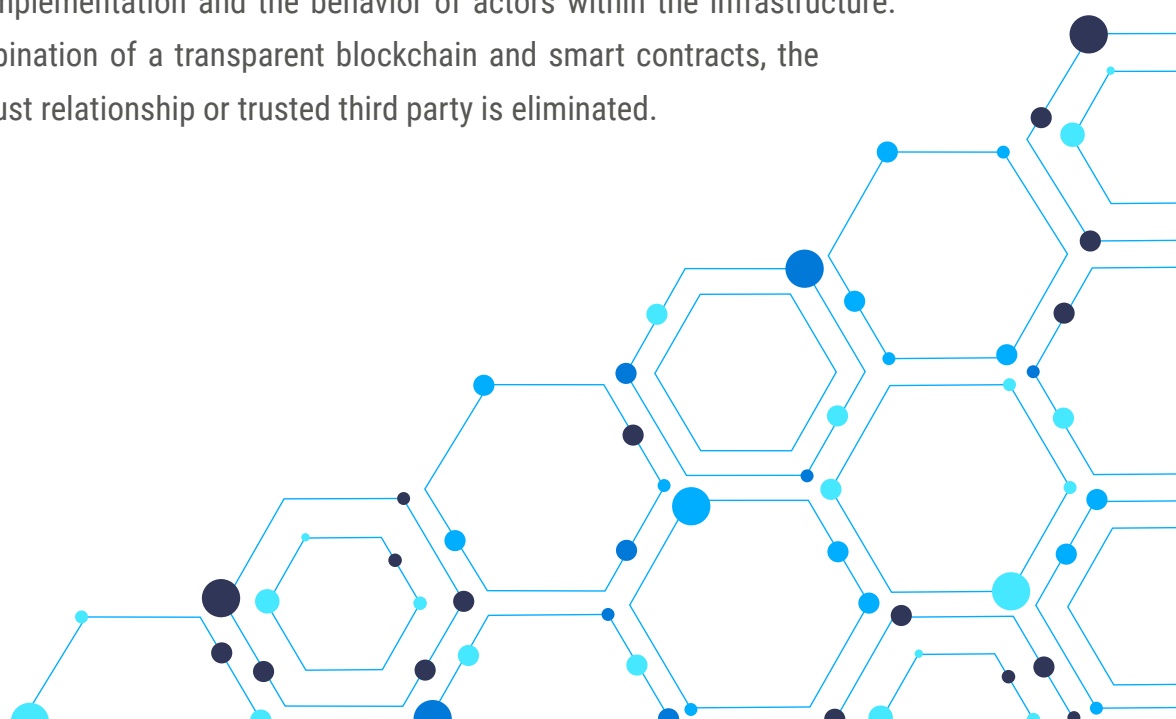
2. BLOCKCHAIN

2.1. BLOCKCHAIN TECHNOLOGY

“Blockchain” is a cryptographically secured data structure which provides an ordered series of blocks which link back to previous blocks to provide a comprehensive picture of variable states. Blockchain is analogous to a ledger, with states readily reconciled because a subsequent state is dependent upon or linked to the previous state. Blockchains can be implemented as distributed ledgers, where multiple nodes possess copies of the ledger and the accuracy of the ledger is predicated on consensus of the nodes as to the content of the ledger.

Blockchain technology is the underlying system for cryptocurrencies like Bitcoin and Ethereum. Blockchain provides a secure, transaction based infrastructure for decentralization and consensus about the validity of transactions on a distributed ledger. The distributed ledger provides transparency regarding the cryptocurrency and transactions made therewith, and can support varying levels of privacy (from anonymous or pseudo-anonymous to public) for users based on implementation and the behavior of actors within the infrastructure.

Through the combination of a transparent blockchain and smart contracts, the need for a prior trust relationship or trusted third party is eliminated.



Knowledge.io leverages blockchain technology in two manners: to implement its *Knowledge* token as a source of value, and to store information of value to advertisers, educators, enterprises and other users in a transparent manner that gives confidence to all parties involved. Blockchain technology and the Knowledge.io platform facilitate the valuation of knowledge and the exchange of value in view thereof.



bitcoin



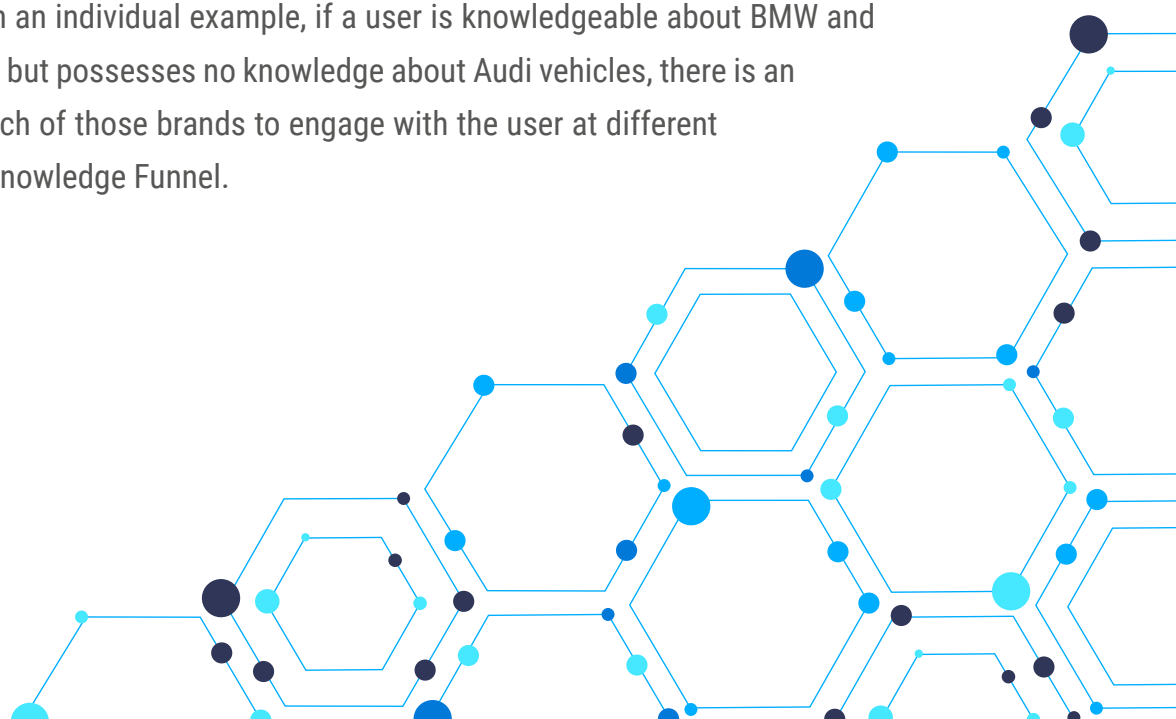
ethereum

3. THE KNOWLEDGE SCORE

Knowledge.io believes that all knowledge is valuable, both to the individual possessing it and to the society in which that individual interacts. At the core of the Knowledge.io platform is the *Knowledge Score*. To encapsulate this value, Knowledge.io's *Knowledge Scores* and associated user personas will track and measure the user's knowledge on a vast set of topics. The data curated in conjunction with Knowledge.io's *Knowledge Scores* will tell stories and identify individual brilliance in a way that has never been possible before.

Through integration with the Knowledge.io platform, educators, employers, advocates, and others can value and exchange knowledge through voluntary or gamified interactions. Knowledge is universally beneficial, and creating incentives for the development and propagation of knowledge stands to benefit a variety of economic, social, and educational environments.

Data miners, marketplaces, enterprises, advertisers and other third parties can use these *Knowledge Scores* as actionable intelligence to target and incentivize both digital and brick & mortar campaigns. *Knowledge Scores* can be assessed individually or aggregated for these purposes. In an individual example, if a user is knowledgeable about BMW and Mercedes sedans, but possesses no knowledge about Audi vehicles, there is an opportunity for each of those brands to engage with the user at different levels within the Knowledge Funnel.





Knowledge.io's patent-pending *Knowledge Score* technology allows Knowledge.io and its partner data pools to identify scores representing the level of knowledge a user possesses about particular topics.

Additionally, the Knowledge.io platform gauges the interest level of the user about a topic based on the sum of the scores for Correct and Incorrect answers associated with the topic. Intent can be derived from questioning the user about scenarios in which there may not necessarily be a Correct or Incorrect answer, or through the identification and magnitude of relationships in the Knowledge Graph (*infra*).

3.1. THE KNOWLEDGE FUNNEL

The *Knowledge Funnel* describes a way for classifying users based on their *Knowledge Score*. The *Knowledge Funnel* describes several levels based on *Knowledge Score* thresholds with respect to a particular topic. By understanding the knowledge of audience segments, advertisers and other parties can craft knowledge-appropriate messages for current or prospective consumers.



Additional meta-insights become available through analysis of the blockchain such as the time when a user picked up knowledge, and the intensity of gaining this knowledge over time. The *Knowledge Score* is comprised of Knowledge Lines, Interest Lines, Review Lines:

1. *Knowledge Lines* define the depth and breadth of a person's knowledge about a topic or an area of life activity. The aspects of the score not only contain knowledge about the empirical arts, but also about entertainment, sports and other non-empirical areas of knowledge. Each Knowledge Line will have its own score that is then weighted to build the overall Knowledge Score. Data sources for Knowledge Lines include: Platforms that directly feed the lines such as Knowledge.io, educational institutions, social media data and business that subscribe to the *Knowledge Score* system for the employees and vendors.
2. *Interest Lines* define how interested a person is about any specific area in their life. That can be interest in the sciences, sports and other aspects of a person. Interest Lines also indicate the intent to learn for a person by correlating how much they know about a subject and their work on trying to learn that subject. Interest Lines have their own score that do not affect the Knowledge Score; instead they provide information on a person's intention to acquire new knowledge. Data sources for interest lines are social media networks, professional networks, clubs and memberships.
3. *Review Lines* define how a person's action is perceived by others. It is a "Review" type attribute that allows the score to include information on how they are perceived by others. As the person receives more reviews, they accumulate different review lines in different areas.

Campaigns can be crafted which allow brands to engage with the user beyond the purchase decision, i.e. upsell opportunities, cross-selling opportunities, customer feedback, etc. Many products have accessories and premium components, and being able to understand where the user is within the *Knowledge Funnel* allows advertisers the opportunity to craft more appropriate messaging beyond just trying to sell an individual product. Once the person becomes a user of the product, they could also become an advocate of the brand and/or product to other users on the network.

3.2. VETTED KNOWLEDGE AND EXPERT IDENTIFICATION

While community contributions in social networks and online marketplaces create abundant opportunities to share information, users are frequently unable to test the veracity of statements. Knowledge.io's *Knowledge Score* solves this problem by providing a standard metric that openly demonstrates a user's knowledge on topics.

For example, merchant-advertisers who post products to the marketplace will be able to solicit and publish vetted expert reviews for products from users having high knowledge scores in topics related to the products. The Knowledge.io system recommends *Vetted Knowledge Star Product Reviewers* to the advertiser based on the *Knowledge Graph AI*, user gameplay, content ingestion, and associated analyses on the *Knowledge Graph*. Advertisers can incentivize users to contribute reviews or other content based on their *Knowledge Score* and offering *Knowledge* tokens as a reward. Unlike conventional influencers and brand ambassadors, who are judged based on easily-manipulated web traffic or follower numbers, *Vetted Knowledge Stars* possess a credential resistant to tampering and that assures other users of the expert's qualifications. The Knowledge.io platform allows *Vetted Knowledge Stars* to be more fairly compensated for their knowledge, and allows advertisers to more carefully focus their spend on knowledgeable spokespeople. As reviews or other content from vetted *Knowledge Stars* aggregate, viewers can filter reviews by friends, *Knowledge Score*, or other variables.



A fun and easy way to compete for knowledge, gain recognition for it, and be rewarded. Take it to the next level and become a Knowledge Star influencer on the Seller Marketplace for products and services that fall within your areas of expertise.

3.3. ADVERTISERS

The *Knowledge Score* will provide unprecedented personas to advertisers. Not only will advertisers know what users know, and how much they know about something, they will also know what they don't know.

- Showcase key attributes of your products and discover Knowledge Stars who will promote your brand.
- Proven and trusted Knowledge Stars can influence their opinion of your brand, products, services, or solutions. Let them be your voice. Send them your product to review, have them do unboxing videos, installation videos, product reviews, etc. and reward them for lifting sales with your buyers in the Marketplace.
- Discover never before available opportunities to engage consumers within different stages of the *Knowledge Funnel*.
- Understand your customers better and improve customer satisfaction.
- Discover knowledge trends and gain competitive insights vs. other brands.

- Sponsor and author knowledge competitions about your brand, company, new product releases to generate interest with a variety of audiences at any or all knowledge levels.
- Develop and measure intent among potential buyers by appealing to the players' psychographics.
- Conduct real time, mass focus group research on target audiences incorporating level of knowledge into the equation.
- Run conditional path ads based on previous responses so that the conversation is more meaningful and personalized, while simultaneously developing the ability to retarget based on these understandings.
- Spend money on people, not bots.

3.4. KNOWLEDGE SCORE USE CASES



Employee Rewards. Skilled employees can be resistant to change. “We’ve always done it this way” is every change manager’s least favorite phrase. And technology which increases efficiency can be perceived as a threat to longtime employees even when management wants to retain their institutional knowledge. The *Knowledge Token* pres-

ents an opportunity to excite a workforce to break their habits and earn rewards for learning, expediting modernization and improving morale. This also reduces dedicated training time spent away from production, improving the organization’s bottom line during changes.

$$E=MC^2$$

Academic Technology Integration. More schools are integrating digital resources to reduce the paper burden associated with education. Tablets or other computing devices are expensive, and so it is in the academic institution's interest to maximize the associated return on investment. More, these devices possess the capability not only to present materials for learning, but to track participation and audit the success of students. The *Knowledge* Token creates an incentive for learning and use with respect to both the substantial educational subjects and the device itself, maximizing outcomes for students and educators and getting the most out of the school's budget.



App Adoption. How does an app - particularly one including educational components - stand out in a crowded field of options? The *Knowledge* Token provides an answer. By offering a reward tied to rank-able *Knowledge Scores* which function across a variety of apps and platforms, users are incentivized in multiple ways, seeking prizes and renown. The aligned network of apps on Knowledge.io platform will be complementary and mutually supporting, rather than competing for proprietary adoption.



Crowdsourcing Expert Information. Modern communication presents many options for requesting information. But there are also more opportunities than ever to receive partial information or misinformation. The *Knowledge* Token allows inquirers to incentivize true experts, rather than amateurs or uninterested respondents,, to provide thorough and honest feedback. Because the *Knowledge* Token is used in conjunction with a *Knowledge Score*, respondents can be vetted and compared using objective metrics to determine their relative mastery of the subject matter in question.



Consumer Education. Consumers have access to tremendous amounts of information through formal and informal media channels. Unfortunately, much of that information is biased based on brand loyalists, “PR friendly” ambassadors, paid reviews, and other marketing efforts. Use of *Knowledge* Tokens to drive learning can help savvy consumers or underdog brands break this cycle. The *Knowledge* Tokens can be used to offer or drive education related to specific products, classes of products, preferred or nonpreferred brands, and other topics to ensure complete information and broader representation in the marketplace.



Public Service Announcements. Public service announcements and similar initiatives present many challenges for those seeking to influence for good. Public health, safety, and understanding are vitally important, but do not capture viewer attention in the same manner as traditional entertainment. Combining these efforts with the *Knowledge* Token creates a tremendous opportunity to grow buy-in and feedback for these campaigns.



Philanthropy. The world is full of chances to be generous. However, with so many prospective donors and available recipients, matching these parties for mutual good can be challenging. Frequently, support for noble causes rests more on the network of people involved than the virtue of the cause. Instead of engaging in pricey marketing efforts or expensive meals, the *Knowledge* Token offers a highly efficient way for nonprofits to convey knowledge about their efforts to donors, or find donors with high knowledge in their space. Likewise, donors can introduce their focus to a host of nonprofits through *Knowledge* Token based campaigns and determine best matches through the Knowledge Scores of those involved.



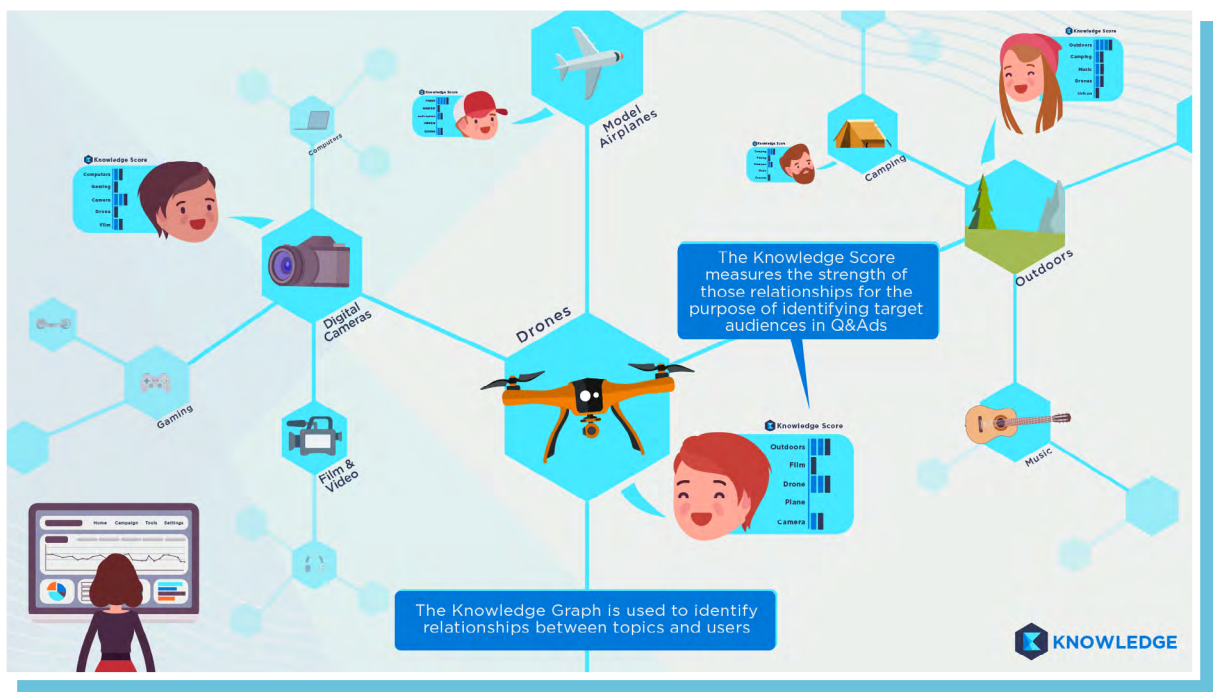
Community Responsibility. We would like our communities to be full of capable contributors. But many of the essential skills that keep a community safe and autonomous do not come easily. CPR certifications, training for neighborhood watch or police auxiliary, flood or tornado education, first aid, roadside assistance skills, and even jury duty training are all important but difficult to execute. The *Knowledge* Token offers a reward to parties who learn and sustain these skills to have communities with more helpful neighbors.



Knowledge.io. Knowledge.io will recognize the biggest and best minds like all-star athletes. But the effort required to become elite in knowledge competitions like IKL's Trivia Spar deserves more than just a ranking. The *Knowledge* Token provides awards and perks to the most knowledgeable players based on their *Knowledge Scores*.

4. KNOWLEDGE SCORE AND DATA POOLS

4.1. THE KNOWLEDGE GRAPH



Graph databases like Neo4j, Titan, and Apache Giraph (which are supported on distributed computing platforms like AWS) allow for the development of complex relationship structures to be built within database systems.

These graph relationships are updated in real-time to allow these systems to learn in an artificially intelligent way. A portion of Knowledge.io's Knowledge Graph manages the relationship between a user and

their *Knowledge Scores* – the depth of knowledge the user possesses, or does not possess, scored by topic.

A topic functions like a keyword or keyword phrase, and is at the core of Natural Language Processing techniques. Using content crawlers and computational linguistics techniques, Knowledge.io collects, parses, and analyzes topics. Based on this information, the Knowledge.io platform develops a graph between these topics and the user level of knowledge. Knowledge.io deepens this insight by analyzing the relationships between topics to discover associations between different topics and personas.

Social networks further inform *Knowledge Scores*. By using OAuth (Open Authorization) mechanisms and with proper permissions, Knowledge.io data pools aggregate and share knowledge about users as determined through their social interactions and profiles. From the strength of friendships between individuals, to a user's favorite television show, "little bits" of knowledge exposed through OAuth systems increase data available to the *Knowledge Graph* and can be leveraged, to more comprehensively develop *Knowledge Scores* and other persona information.

Knowledge.io's *Knowledge Graph* implements true artificial intelligence, whereby new topic-to-topic, topic-to-context, and topic-to-user relationship strengths are updated in real time through the Knowledge.io platform's knowledge data processing techniques. The *Knowledge Graph* AI continuously analyzes and re-analyzes the content contained within the platform to validate or redraw the relationships on the graph in real time as the Knowledge Graph learns about new entities and topics. The AI-driven *Knowledge Graph* provides advertisers, *Knowledge Marketplace* participants, educators, enterprises and other parties essential information to optimize and incentivize platform-based and syndicated campaigns.

5. AD TECH

In conventional ad tech, systems utilize a “lookalike analysis” to determine similarities based on statistics. Knowledge.io advances this concept with its *Knowledge Match* functionality.

Several recommender systems operate within Knowledge.io’s knowledge-based advertising system, Q&Ads platform, and the Advertiser/Seller marketplace. Similar to AdWords, Knowledge.io’s Q&Ads platform allows advertisers to select and identify keywords for target audiences based on knowledge levels related to topics associated with those keywords. Knowledge.io’s *Knowledge Match* provides advanced personalization techniques to be employed for matching users and products or services according to their knowledge. Knowledge.io’s *Knowledge Match* answers the “Who is like me?” for users on the Knowledge.io platform including within the *Seller Marketplace*. The confidence and detail with which similarities are identified is significantly improved over earlier lookalike analysis based on Knowledge.io’s *Knowledge Graph* and user personas. Based on the identification of likeness, specific recommendations can be made for users/players, as well as advertisers, to personalize and optimize experiences and goal achievement on the Knowledge.io and partner platforms.

COST-PER-RESPONSE AD PRICING MODEL

CPM, CPC, and CPA pricing models have long held the reigns of dominance in the online advertising pricing game, with CPM being the primary ad pricing model for exchange based trading. There are advantages and disadvantages to these models, and this whitepaper seeks to explore these models in comparison with a new pricing model.

Traditional Pricing Models

- **CPM = Cost Per Mil:** traditional pricing model, whereby the publisher is paid \$x for every 1000 ads shown
- **CPC = Cost Per Click:** alternate pricing model, whereby the publisher is paid \$.x for every click of an ad shown
- **CPA = Cost Per Action:** performance model, whereby the publisher is paid \$x for every conversion action (purchase, lead, download, etc.)

New Pricing Model

- **CPR = Cost Per Response:** new pricing model, whereby the publisher is paid \$.xx for every response given to a question

CPR allows advertisers to ask survey like or focus group type questions to audiences, analyze the responses, and make adjustments to their products, services, and strategies while persisting the feedback loop on customer engagement.

Banners and video ads served in CPM, CPC, and CPA allow the user to click on the ad and spawn a visit to the advertiser's website. With in-game ads, this is not a desirable situation for both publishers and advertisers, as it detracts from continued gameplay, and may not provide any resulting conversion. The risk is lesser with CPA, as the commission is only payable upon conversion, and there are advantages to having the user land on the ad property for future retargeting, or for the current session's purchase potential. CPM and CPC are considered high risk models, and there is a cost associated with having the user land on the ad property even if for RTB attribution purposes.

The CPR model allows advertisers to cultivate an ongoing relationship with their audiences, build brand interaction, develop rich personas, and experiment with question/response based advertising in ways previously only possible within a survey or a focus group. The format necessary for this ad model is that of a question and answer response selection.

Deeper interactions can also be embedded within these ad units. For example, to allow the user to request more information in the form of a lead, whereby the app passes along the user's email address and a lead form is submitted to the advertiser. Advertisers can then respond and grow their email communications with this user. Advertisers can also send the user a text message with a link to download their mobile app. They can also use this format to ask the user to rate the advertiser or their products or mobile apps, which is valuable to certain advertisers for SEO and play/app store ranking/trending purposes.

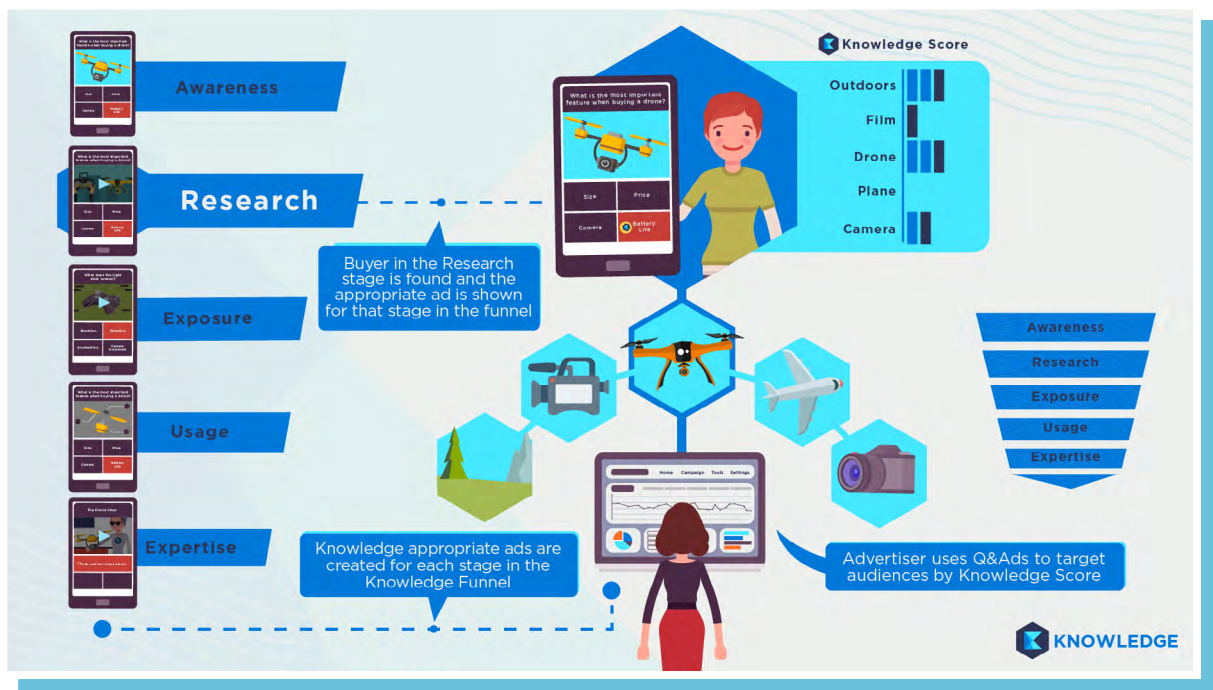
CPR will ultimately be run as an auction, not a flat fee, and allow the advertiser to either control all of their bids or check a box for Knowledge.io to optimize the bids on their behalf. If they choose to manually control their bids, they'd be able to set max bid thresholds for each Knowledge score targeting criteria. Advertisers can also apply demographic and geospatial filters to the above.



6. PARTNER APPS

6.1. TRIVIA SPAR

After nearly a year of development, International Knowledge League (IKL) has launched its premiere game, Trivia Spar. Trivia Spar is a trivia game utilizing patent-pending technology that allows advertisers to target audiences based on user *Knowledge Scores* associated with topics of interest to advertisers. Trivia Spar uses industry relationships such as Oxford University, TiVo, KBB and other partners to create questions out of structured data. This allows for a deep and wide variety of content for our players, providing a very unique and entertaining gamified learning platform. In contrast to other platforms, Trivia Spar launched with over 10,000,000 questions in its system all curated through algorithmic processes. The range of information is from entertainment based questions such as “Movie” and “Sports” to general education type questions such as “Oxford’s Dictionary of History” or “Oxford’s Dictionary of Geography” to highly specialized knowledge such as medical “ICD9” and “ICD10” based questions. The technology allows for boundless question generation to enable expertise verification in all fields imaginable, both practical and theoretical.



6.2. MEMORY SPAR

Currently in development, Memory Spar focuses primarily on memory retention testing, both short and long term. Text, images and video are shown, then hidden, and the user is asked to recall what they just saw. Additionally, as we gamify educational learning, rewarding schools, educators, and students through gamified quizzes, we are able to test longer term memory retention of topics and subjects which appear in their curricula, and see if the user can recall the correct answer consistently throughout time. This works for brands as well, in helping them achieve top of mind share. Through our existing data relationships, and new ones IKL is curating, an endless stream of Q&A content will be available to our users. Once we've completed a successful Knowledge token sale, the Knowledge Lab will focus on automation of content ingestion, analysis, and automatic question and answer set generation from text, image, video and speech sources.

6.3. KNOWLEDGE APP

Knowledge.io will have score and token focused app for users to view their *Knowledge Score*, and be able to follow advice on how to improve their scores and also convert tokens they have earned to fiat. Users will also be able to browse the Seller Marketplace and spend their Knowledge tokens.

6.4. PARTNER APPS

Our partners include platforms such as GamingGrids, who will provide an instant user base to our *Knowledge Score* system. Through directed question/response based advertising, these platforms will provide unprecedented access to their users for our Q&Ads platform, allowing us to capture data instantly. The current user base of all platforms combined amounts to 5,000,000 users.

Additional partners will include any website or app that wishes to include our SDK or interact with our APIs for the purpose of earning revenue in the form of *Knowledge* tokens. Knowledge.io will also syndicate ads to partners via the programmatic exchanges but utilizing our own DSP and RTB bidder systems, as well as creating a Private Marketplace (PMP). Even though we might syndicate ads to partners, there is a chance that the partner will not join the PMP initially. Regardless, tokens earned by these potential partners will be tracked and allocated for future disbursement once the partner joins the PMP.

Reward your players, customers, and visitors with *Knowledge* tokens and earn revenue. Gain insights into your audiences at the knowledge level. Offer products and services from our advertisers within your games, websites, apps, etc. Become a trusted consensus node and earn premium tokens.



7. KNOWLEDGE TOKEN

Knowledge.io lives the axiom that “knowledge is power” – knowledge literally powers the Knowledge.io platform. Data pools that interact with the Knowledge.io platform are rewarded for contributing knowledge. When their users contribute knowledge to the Data Management Platform (Knowledge blockchain) through use of Knowledge.io or partnered data pool systems, *Knowledge Tokens* are disbursed proportionally as a reward for sharing or generating knowledge. *Knowledge Tokens* are ERC-20 standard currency in IKL’s platform. Because Knowledge.io directly connects value with knowledge, parties are incentivized to increase and share knowledge openly.

For example, through play on IKL’s Trivia Spar game, users answer trivia questions about topics. These responses are used to develop the user’s *Knowledge Score* on those topics. To encourage the users to increase and share their knowledge, Knowledge.io awards *Knowledge Tokens* proportional to the users’ contributions in the forms of participation and in some instances, responses given. The resulting *Knowledge Scores* and other information are developed into user personas, made available for entertainment, educational and business purposes in exchange for value, in the form of *Knowledge Tokens*. Knowledge.io also provides a *Knowledge Token* testnet, including testnet tokens available to Knowledge.io development partners to facilitate integration of *KnowledgeTokens* in cross-platform implementations.

7.1. KNOWLEDGE META-MINING

Web, app, and gameplay usage of Knowledge.io (or partner systems) is treated as a proxy for mining. The *Knowledge-*



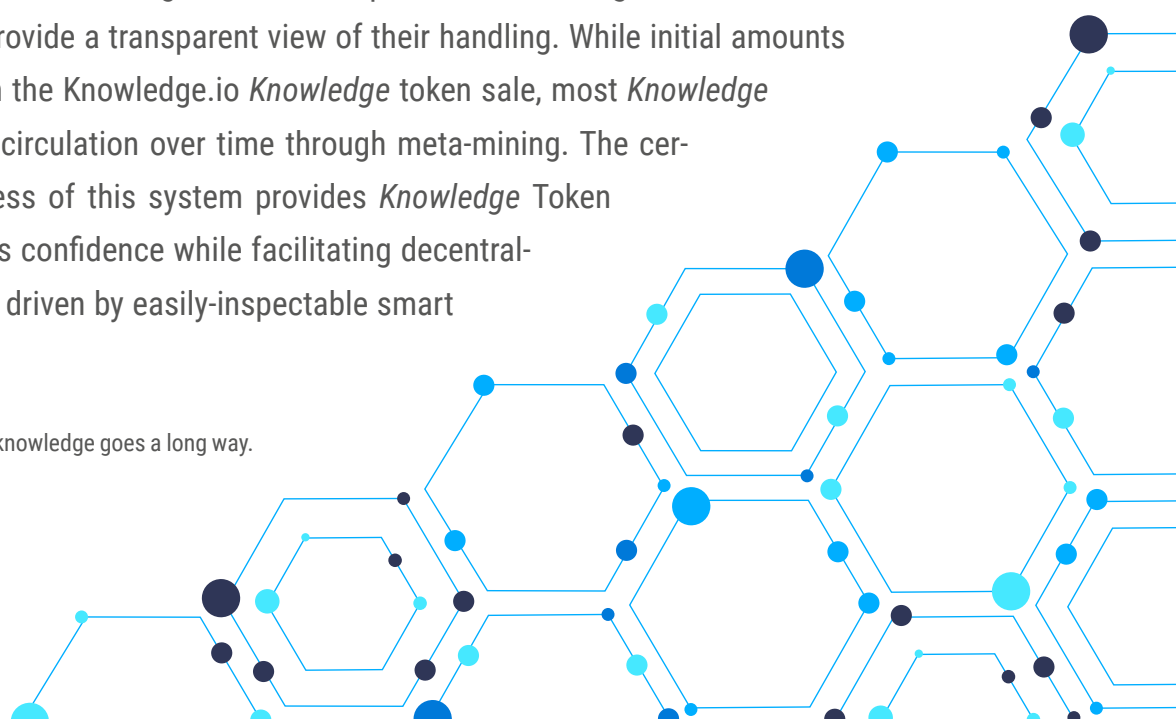
Token is mined not by cryptographic hashing, but by solving questions from which *Knowledge Scores* can be developed, or by usage of websites and apps that have some associated knowledge value. Data pools submit shares of knowledge from their users to the Knowledge.io blockchain. After this knowledge transaction is confirmed by Knowledge.io's meta-consensus processes, the data pool receives a reward denominated by the *Knowledge Token*.

The proportional contributions of users in each data pool are calculated and the data pool distributes *Knowledge Tokens* to each user's digital wallet. *Knowledge Tokens* provided as rewards can be divided into fractions of *Knowledge Tokens* and to a core unit of value, a "littlebit."¹ The data pool or other facilitators can optionally keep a percentage of *Knowledge Tokens* awarded as a fee for operating the pool (*i.e.*, a transaction fee to compensate users where all tokens are pre-mined).

As additional titles join Trivia Spar on the Knowledge.io platform (both through Knowledge.io development and partners) the number of participating users and the number of *Knowledge Tokens* distributed will achieve scale. We expect each increase in both users and *Knowledge Tokens* will increase their utility and liquidity. The solution is scalable, allowing Knowledge.io to add nodes and enable meta-mining pools in accordance with growth.

While prepared for substantial growth, the number of *Knowledge Tokens* available across the platform is finite. *Knowledge Tokens* are "pre-mined," existing at launch to allow for distribution and provide a transparent view of their handling. While initial amounts will be released in the Knowledge.io *Knowledge token* sale, most *Knowledge Tokens* will enter circulation over time through meta-mining. The certainty and openness of this system provides *Knowledge Token* partners and users confidence while facilitating decentralized management driven by easily-inspectable smart contracts.

1 A "littlebit" of knowledge goes a long way.



7.2. DIFFICULTY LEVEL AND SMART CONTRACT CONTROLLED RELEASE OF KNOWLEDGE TOKENS

To manage the supply of cryptocurrency, Bitcoin and other blockchain-based cryptocurrencies vary the difficulty level and reduce the quantity of the token reward for mining activity over time. Knowledge.io meta-mining implements a similar solution.

ERC20 smart contract terms will control the release of *Knowledge* Tokens to provide decentralized management of supply and support a sustainable market value. As the circulation of *Knowledge Tokens* increases, greater amounts of meta-mining (e.g., in terms of data provided; in terms of knowledge gleaned from the data provided; and so forth) will be required to receive smaller proportions of *Knowledge* Tokens. The *Knowledge* Token thus possesses a robust meta-mining analog for the release functions imposed by popular cryptocurrencies like Bitcoin and Ethereum.

Smart contracts are used to release tokens into circulation from a reserve account maintained by Knowledge.io. As usage occurs on partner/publisher/publisher pools, smart contracts analyze the usage proportions of each player on each pool as a percentage of the total amount of usage on each pool, and smart contracts deliver Knowledge to each player's wallet in the correct proportions. Pools receive their transaction fees via smart contracts, as well.



Pool meta-mining software analyzes the total meta-mining activity for each player on every pool and via consensus, agree on the next block in the blockchain. A second underlying blockchain is constructed and agreed upon by all pool participants in the platform. Consensus is made by agreeing that the proper proportional reward amounts are issued. The underlying blockchain also takes into account a set of ever increasingly complex algorithms that are used to combat fraud by bots and farms, and these transactions are not rewarded for their fraudulent meta-mining activity. The ads.txt standard from the IAB will also be used as a way of whitelisting accredited publishers, as part of this algorithm.

Pools also have the ability to receive premium transaction fees when specific, agreed upon actions are taken on the pool and submitted and verified against the SDKs and/or APIs. For example, Knowledge.io and other partners can submit a request stating that the user has successfully submitted a valid recaptcha as a basic way of verifying that the user is not a bot. Pools that have received commissions for users who have gone on to buy something from an advertiser will also be known by the network. Ks are also used to verify that a user is meeting a threshold score indicating they are a real person. Users making in-app purchases on publishers platforms will also be known by the network; in-app purchases require the use of a valid credit card, thus indicating a real person. OAuth and two-factor authentication also play a key part in determining whether a player is a real person. These are examples of basic publisher knowledge that can be shared for a premium to publishers/pools. The underlying blockchain will be developed to manage the network-wide decentralization of the user's Ks.

Advertisers also have a hand in shaping the underlying blockchain with regards to fraud bots and farms, as well as *Knowledge Score*.

Advertisers who have registered users and have used valid credit cards in order to make purchases will present their data to the SDKs/APIs to allow for a decentralized improvement of the Ks.

8. PRIVACY

Web and mobile users across a variety of platforms consider privacy a priority in their online activity. In addition to accommodating users, organizations handling account data must comply with a variety of laws, and stay abreast of best practices which often exceed the minimum legal requirements. Knowledge.io considers its users' privacy a top priority, and offers user-selected privacy settings in addition to leveraging industry best practices to ensure the security of user information.

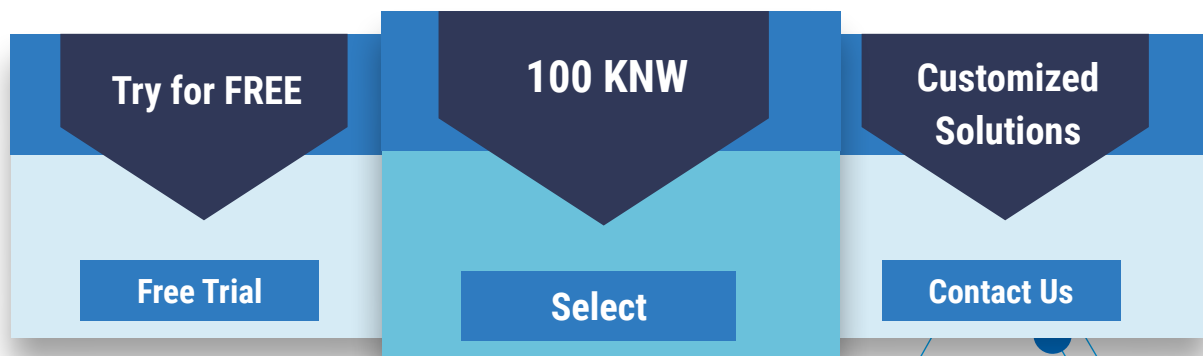
Individual users can improve their own *Knowledge Scores* in the Knowledge.io platform. Through the Knowledge.io *Knowledge Score* interface, users can set privacy preferences which control how public, or how private, at least one of their topical *Knowledge Scores* is on the Knowledge.io platform and/or on partner platforms.



9. KNOWLEDGE TOKEN UTILITY

Any token has the value ascribed through supply and demand. Many tokens today, even if they are traded on exchanges do not have intrinsic use. Users can earn them, but for the large majority of tokens, the only way to monetize the token in the current real world is to convert them to fiat through trading. Some require huge partnerships with banks and international conglomerates to grow, while others focus on specific use cases that are attractive to the crypto community, which leaves out the vast majority of the population. To the larger population, cryptocurrency concepts are still nebulous and even frightening, but this narrative is beginning to shift. *Knowledge* Token wants to be the token for everyone: The Walmart shopper, the Harvard professor, the pilot, the singer.

All Knowledge.io services will be handled through the purchase and use of *Knowledge* Tokens. This is to ensure token utility, increase token demand and keep the *Knowledge* Token economy healthy and thriving.



9.1. THE SELLER MARKETPLACE

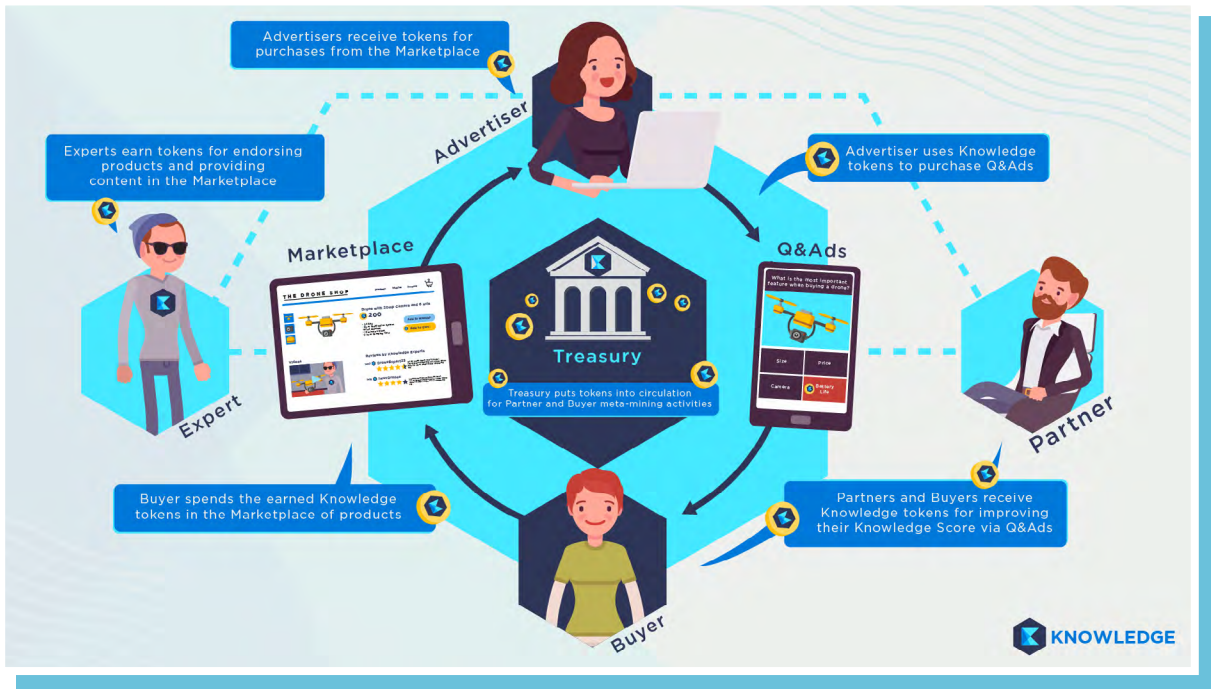
The Knowledge.io platform provides an online Seller Marketplace offering advertiser products and services available in exchange for *Knowledge* Tokens.

Ecommerce stores and their products are linked to advertiser campaigns and content within the Knowledge.io platform, creating a full cycle whereby advertisers put tokens into the platform to pay for advertising to users, users receive these tokens for their gameplay and usage, and then users spend these tokens back with the same advertisers in the marketplace. Knowledge.io can present in-app advertising and seller marketplace functionality to users from advertisers implementing the *Knowledge* token APIs and mobile SDK in conjunction with their software.

The seller marketplace is integrated with the *Knowledge Match*, allowing consumers to pose questions through the interface (or apps integrated with the Knowledge.io platform) to receive recommendations based on the user's own knowledge and knowledge derived therefrom in the Data Management Platform.

In order to jumpstart the Marketplace and ensure the non-crypto user can enjoy tokens earned, we have established relationships with merchants that will provide a catalog of 300,000 products.





9.2. THE KNOWLEDGE TOKEN ECONOMY

Knowledge Tokens are unique in that they have useful use cases for everyone. They do so through a variety of channels, several of which are already established. By taking cryptocurrency and deploying it to people outside the crypto community, we aim to take the *Knowledge* tokens into the mainstream. The best part about it, is that users will now receive rewards for everything they're already doing today on any of the partner platforms.

10. THE TECHNOLOGY AND ROADMAP

The platform is being built using technologies that are cutting edge yet stable. Below are technologies we are targeting for our technology stack.



[Kafka™](#) is used for building real-time data pipelines and streaming apps. It is horizontally scalable, fault-tolerant, wicked fast, and runs in production in thousands of companies.



[Python](#) is an open source programming language.



[Redis](#) is an open source (BSD licensed), in-memory data structure store, used as a database, cache and message broker.



[Neo4j](#) is specifically optimized to store and traverse graphs of connected data. By intuitively mapping data points and the connections between them, Neo4j powers intelligent, real-time applications.



[Elasticsearch](#) is a distributed, RESTful search and analytics engine, centrally storing data so we can discover the expected and uncover the unexpected.



[R](#) is a language and environment for statistical computing and graphics. R provides a wide variety of statistical and graphical techniques, and is highly extensible.



NativeScript is a cross-platform framework for building native apps using JavaScript, CSS and XML



AngularJS is by far the most popular JavaScript framework available today for creating app



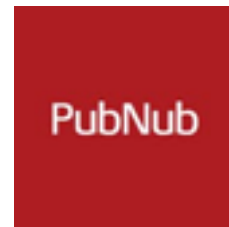
RxJS or Reactive Extensions for JavaScript is a library for transforming, composing, and querying streams of data



Auth0 is a service that abstracts how users authenticate to applications



Keen IO is a set of powerful APIs that allow you to stream, compute, and visualize events

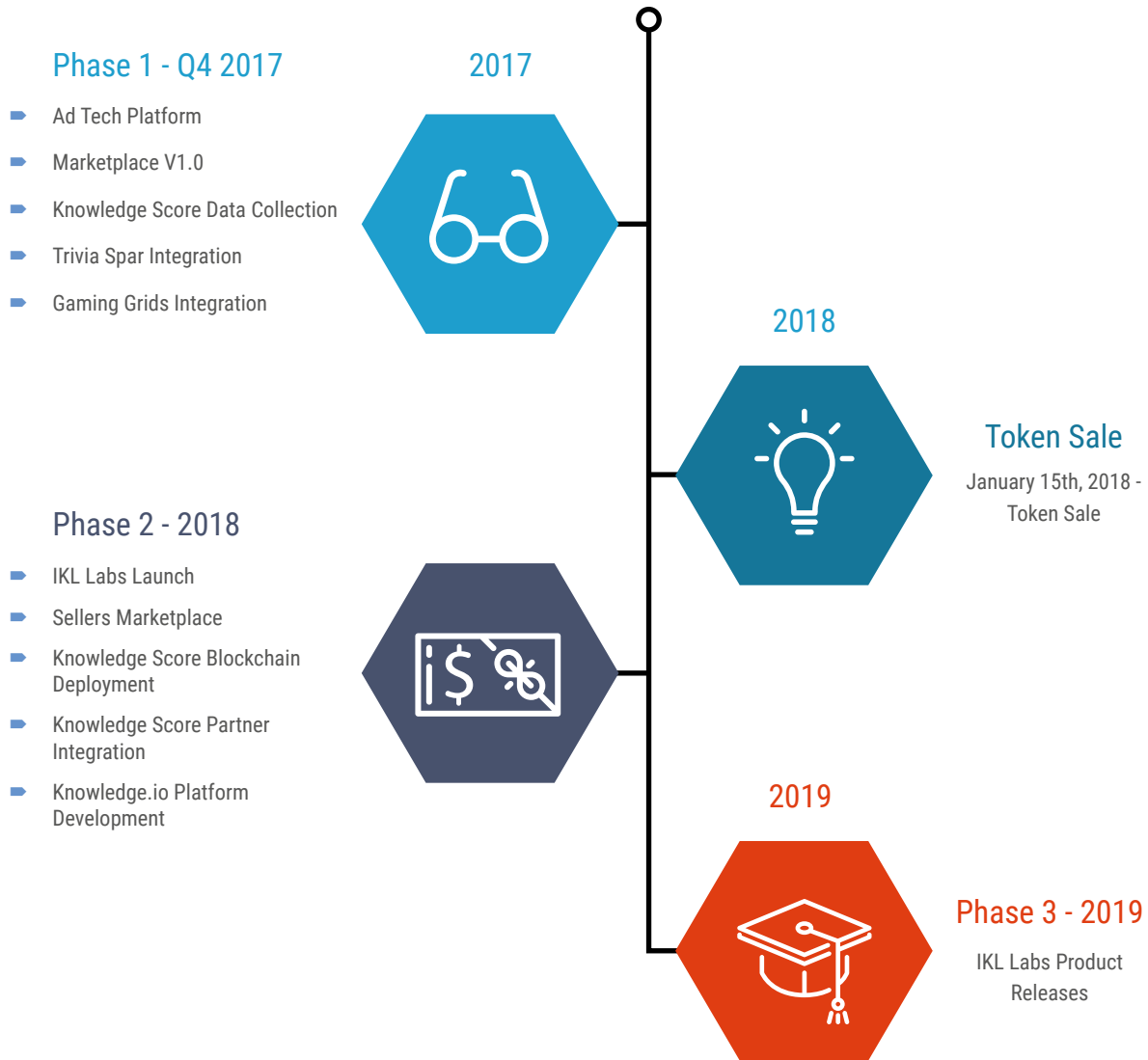


The **PubNub** Data Stream Network enables developers to build and scale realtime apps

Below is a product diagram of what we intend to expand on and build. Note that Trivia Spar and Q&Ads is already in production and will be expanded upon.

Meta-mining technology will be launched 2 months after the end of the Token Sale, and is currently being developed.

10.1. TIMELINE

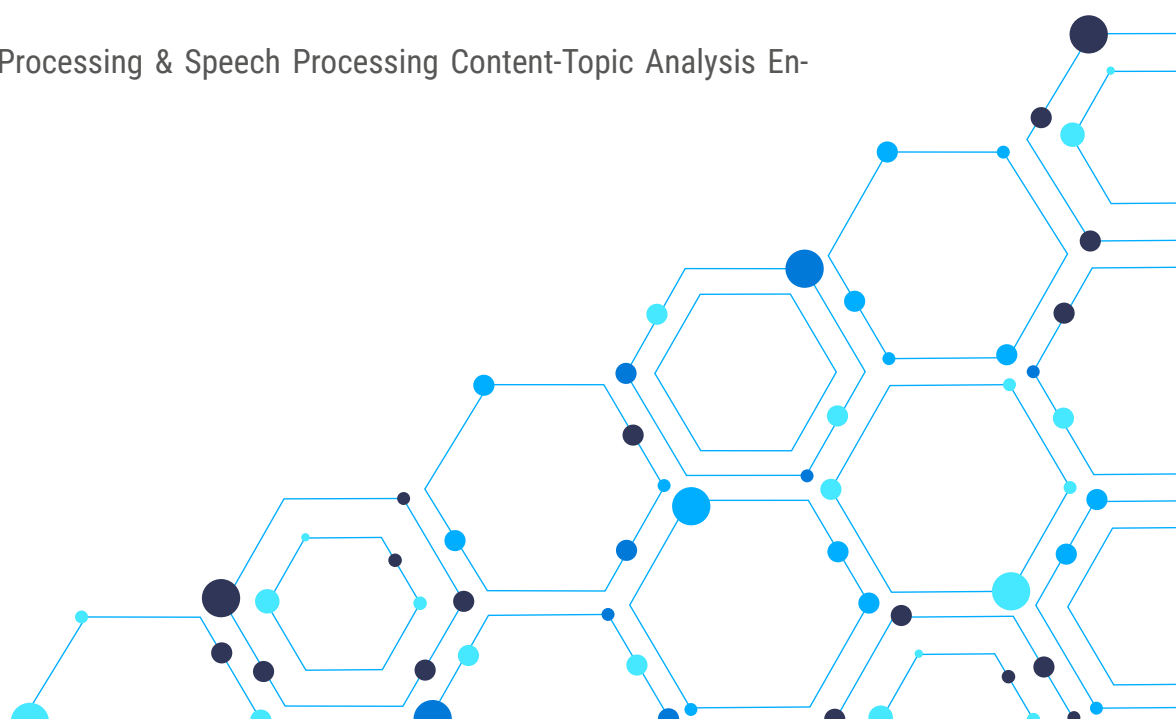


11. THE KNOWLEDGE LAB

The Knowledge Lab will focus on advancing the understanding of topics by applying advanced techniques of Natural Language Processing (NLP), machine learning, deep learning, computer vision, speech processing and other AI technologies in conjunction with the Knowledge.io platform.

Knowledge.io tools and data in the form of questions as answers can also be used as training data input for NLP, Computer Vision, Speech Processing, and other Machine Learning and AI algorithms.

- Q&Ads Optimization Engine
- Automated Question & Answer Sets (AQuAS)
- NLP Content-Topic Analysis Engine
- CV Content-Topic Analysis Engine
- Digital Signal Processing & Speech Processing Content-Topic Analysis Engine



12. USE CASES / MODULES

12.1. AD TECH

Problem

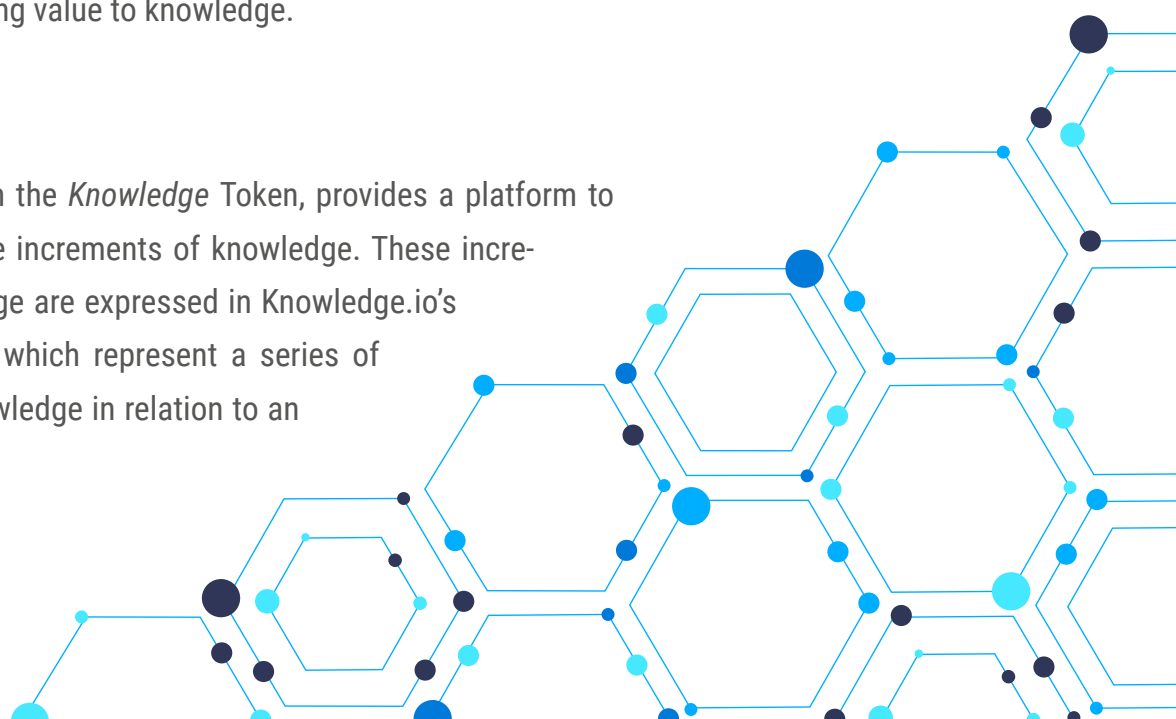
Every little bit of knowledge has *value*.

The Internet facilitates generation and aggregation of vast amounts of data, unlocking awareness of potential customers, consumer insights, social interactions, and user knowledge. Cloud computing platforms like Amazon Web Services (AWS), the Google Cloud Platform, Microsoft Azure, and IBM Cloud provide the processing infrastructure that brings data to life and enables billions of daily interactions between parties.

Online user interactions provide valuable indicators of consumer habits, interests, intent, and desire. The Internet stores immense potential energy to develop and share knowledge using new and more effective techniques than those in practice. Existing data could be used in new ways, and new data developed through smart incentives through implementation of a platform assigning value to knowledge.

Solution

Knowledge.io, with the *Knowledge Token*, provides a platform to discover and value increments of knowledge. These increments of knowledge are expressed in Knowledge.io's *Knowledge Score*, which represent a series of levels of user knowledge in relation to an



unbounded set of topics. *Knowledge Scores* are developed or shared with the exchange of value facilitated by Knowledge.io's *Knowledge Token*. *Knowledge Tokens* are earned or acquired on Knowledge.io and its partner platforms. Consumers use *Knowledge Tokens* to buy products and services, including on the Knowledge.io platform and in a Seller Marketplace associated with the Knowledge.io platform.

Unlike traditional ad tech platforms which rely on user consumption activities or the application of statistical sample data, the Knowledge.io Q&Ads platform discovers and synthesizes knowledge-based personas to find people who know a little, a lot, or nothing at all about any topic of interest to an advertiser. These personas reside, and are continuously updated, within the Knowledge.io Data Management Platform (DMP).

The DMP has an immediate core mass of personas based on Knowledge.io's industry relationships. Knowledge.io partnered with GamingGrids, a leading eSports platform, will allow Knowledge.io to capture and analyze data from their 5 million monthly active users. On launch (Q4 2017), the Knowledge.io platform will build personas for use in targeted and incentivized advertising incorporating Knowledge.io's Knowledge Score algorithms. Knowledge.io will reward participating users proportionally for their gameplay/usage activity² on the GamingGrids pool ("*meta-mining*" to earn tokens). Knowledge.io will reward meta-miners with *Knowledge* tokens.

² Not all "meta-mining" activity need relate to gameplay and some apps utilizing *Knowledge* tokens may not be game-related.

12.2. KNOWLEDGE TOKENS AND THE Q&ADS ADVERTISING PLATFORM

In addition to serving as rewards for meta-mining, advertisers and other partners utilize *Knowledge* Tokens to accomplish their goals on the Knowledge.io platform, such as targeting potential customers, engaging knowledge experts, and selling products and services. *Knowledge* Tokens are the currency for buying advertising inventory on the Q&Ads advertising platform for both in-app ads and syndicated ads across the web, and in other app and game publisher systems.

12.3. FRAUD & BOT DETECTION & PREVENTION

Because knowledge has value, Knowledge.io expects malicious parties to attempt fraud or automation efforts for capturing value unethically. The Knowledge.io platform is built to resist these contingencies.

When smart contracts in decentralized systems execute a transaction, the transaction data must achieve consensus among participants or it will be rejected. The Knowledge.io platform includes several mechanisms by which platforms can detect and limit fraud of this kind. Machine learning components implemented in the Knowledge.io platform use device information, IP addresses, algorithmic analysis of gameplay interactions, and other techniques to detect and eliminate fraud. The *Knowledge* Token architecture analyzes the information sent by each pool to determine the validity of the data sent. The Knowledge.io platform also integrates industry-standard and proprietary techniques for detecting bots and other means of fraud.

12.4. DATA MANAGEMENT PLATFORM

Traditional advertising databases use statistics to suggest user interests and intent data based primarily on content consumption. As users visit pages on the web, content delivered is analyzed and topics are added to the persona for that individual. Attributes like income level, household income level, number of automobiles, homeowner or renter, *et cetera*, are all derived from neighborhood level statistical data, which may overgeneralize individual users based on their zip code. While these techniques can determine what a user's device downloaded, they have no ability to detect what a user learned.

Knowledge.io's DMP assembles topic-based Knowledge Scores to determine user knowledge level about topics based on their responses to questions. The Knowledge Scores in the DMP identify not only the presence of knowledge, but also its absence, or the presence of counterfactual beliefs. In this regard, the DMP is not limited to objective knowledge, but can also manage subjective or relative information received from or discovered about users. Over time, Knowledge.io assembles a deep persona about a wide range of topics, and can be used by advertisers to target or incentivize people based on their knowledge, their understanding or perception, or even their unfamiliarity or uncertainty.



13. TOKEN SALE ECONOMICS



150M

Total Number of Tokens Created



15M

Max Tokens Available for Pre-sale



68.75M

Main Sale Tokens Available

14. SALES PARAMETERS

PRE-SALE EARLY BIRD



**50%
bonus**

JANUARY 15

The Token Pre-Sale starts. Buyers are rewarded with a **50% Knowledge Token Bonus**.

**40%
bonus**

JANUARY 29

The Token Pre-Sale continues. Buyers are rewarded with a **40% Knowledge Token Bonus**.

**25%
bonus**

FEBRUARY 12

The Pre-Sale is over. Main Sale begins. Buyers are rewarded with a **25% Knowledge Token Bonus**.

**15%
bonus**

FEBRUARY 26

Main Sale continues. Buyers are rewarded with a **15% Knowledge Token Bonus**.

**5%
bonus**

MARCH 12

Main Sale continues. Buyers are rewarded with a **5% Knowledge Token Bonus**.

**0%
bonus**

MARCH 26

Final days of the Main sale.
There is no bonus.
Token sale ends
April 8th.

- Pre-sale dates: Jan 15-Feb 12
- Main Token sale dates: Feb 12-Apr 8
- Sale method: Cap Sale
- Token value: \$1.00 USD
- Crowdsale cap: \$65 Million
- Currencies accepted: BTC, LTC, ETH and Wire Transfer
- Minimum TX size: 0.01 BTC, 0.1 ETH, 0.5 LTC

Pre-Sale Bonus Schedule:

- Pre-sale: Early Bird - January 15th, 2018 12:00 PM - January 29th 11:59 AM - 50%
- Pre-sale - January 29th, 2018 12:00 PM - February 12th 11:59 AM - 40%

Main Sale Bonus Schedule:

- February 12th, 2018, 12:00 PM - February 26th, 11:59 AM - 25%
- February 26th, 2018, 12:00 PM - March 12th, 11:59 AM - 15%
- March 12th, 2018, 12:00 PM - March 26th, 11:59 AM - 5%
- March 26th, 2018, 12:00 PM - April 8th, 11:59 AM - 0%

RISK FACTORS

DecentralizeX, dba Knowledge.io, producer of the Knowledge token, is a new company. Knowledge.io is not registered with the United States Securities and Exchange Commission, or any other foreign or state regulatory agency. Knowledge.io is not subject to any public reporting or filing, and has no operating history for purchasers of *Knowledge tokens* to review.

Knowledge token Generation Event Risk Factors

You should carefully consider and evaluate each of the following risk factors and all other information contained in the Token Sale Agreement before deciding to participate in the *Knowledge token* generation event (the "Token Sale"). To the best of Knowledge.io's knowledge and belief, all risk factors which are material to you in making an informed judgment to participate in the Token Sale have been summarized below. If any of the following considerations, uncertainties or material risks develops into actual events, the business, financial position and/or results of operations of Knowledge.io and the maintenance and level of usage of the Knowledge.io platform and the *Knowledge tokens* could be materially and adversely affected. In such cases, the potential value of *Knowledge tokens* could decline due to any of these considerations, uncertainties or material risks.

1. RISKS RELATING TO PARTICIPATION IN THE TOKEN GENERATION EVENT

There is no prior market for Knowledge tokens and the Token Generating Event (Token Sale) may not result in an active or liquid market for the Knowledge tokens

Prior to the Token Sale, there has been no public market for the *Knowledge tokens*. The *Knowledge tokens* are not currently listed on any cryptocurrency exchange and no public market currently exists for *Knowledge tokens*. There is no assurance that an active or liquid trading market for the *Knowledge tokens* will develop, or if developed, will be sustained. There is also no assurance that the market price of the *Knowledge tokens* will not decline below the original purchase price (the "Purchase Price"). The Purchase Price may not be indicative of the market price of the *Knowledge tokens*.

A *Knowledge token* is not a currency issued by any central bank or national, supra-national or quasi-national organization, nor is it backed by any hard assets or other fiat currency credit. Knowledge.io is not responsible for, nor does it pursue, the circulation and trading of *Knowledge tokens* on the market. Trading of *Knowledge tokens* will merely depend on the consensus on its value between any relevant market participants. No one is obliged to purchase any *Knowledge token* from any holder of the *Knowledge token*, including the purchasers, nor does anyone guarantee the liquidity or market price of *Knowledge tokens* to any extent at any time.

Furthermore, *Knowledge tokens* may not be resold to purchasers who are citizens or permanent residents of New York, Singapore, China, or any other jurisdiction where the sale of *Knowledge tokens* may be in violation of applicable laws. Accordingly, Knowledge.io cannot ensure that there will be any demand or market for

Knowledge tokens, or that the Purchase Price is indicative of the market price of *Knowledge tokens*.

Future sales or issuance of the Knowledge tokens could materially and adversely affect the market price of Knowledge tokens.

Any future sale or issuance of the *Knowledge tokens* would increase the supply of *Knowledge tokens* in the market and this may result in a downward price pressure on the *Knowledge token*. The sale or distribution of a significant number of *Knowledge tokens* outside of the Token Sale (including but not limited to the sales of *Knowledge tokens* undertaken after the completion of the initial crowdsale, issuance of *Knowledge tokens* to persons other than purchasers for purposes of community initiatives, business development, academic research, education and market expansion and issuance of *Knowledge tokens* as a reward to users of the Knowledge.io platform), or the perception that such further sales or issuance may occur, could adversely affect the price of the *Knowledge tokens*.

Negative publicity may materially and adversely affect the price of the Knowledge tokens

Negative publicity involving the Knowledge.io platform, the *Knowledge tokens* or any of their key personnel of Knowledge.io, and/or regulation of cryptocurrencies in the US or worldwide, may materially and adversely affect the market perception or market price of the *Knowledge tokens*, whether or not it is justified.

We may not be able to pay any anticipated rewards in the future

There is no assurance that there will be sufficient engagement in the Knowledge.io platform such that you will receive any rewards anticipated to be distributed to active users of the Knowledge.io platform. Further, even in the event there is substantial engagement and interactions among the users and the Knowledge.io platform, there is no assurance you personally will receive any part of the rewards. This is because the ability of Knowledge.io to pay any reward to you will depend on the future results of operations and the future business and financial condition of Knowledge.io, and there is no assurance of the future results of operations and the future business and financial condition of Knowledge.io or *Knowledge tokens*.

There is no assurance of any success of Knowledge.io platform or any Future Business Line

The value of, and demand for, the *Knowledge tokens* hinges heavily on the performance of the Knowledge.io platform and the continuous active engagement of its users and success of its current and contemplated business lines. There is no assurance that the Knowledge.io platform will gain traction after its launch and achieve any commercial success. Furthermore, there is no assurance that any of the business lines contemplated by Knowledge.io will be launched and generate sufficient customer traction. Although Knowledge.io has performed several market studies testing the demand for the Knowledge.io platform with relatively positive results, the Knowledge.io platform has not been fully developed and finalized and is subject to further changes, updates, and adjustments prior to its launch. Such changes may result in

unexpected and unforeseen effects on its projected appeal to users, possibly due to the failure to meet users' preconceived expectations based on the beta version, and hence, impact its success. While Knowledge.io has made every effort to provide a realistic estimate, there is also no assurance that the cryptocurrencies raised in the Token Sale will be sufficient for the development of the Knowledge.io platform and/or for the proper structuring and licensing of Knowledge.io business lines. For the foregoing or any other reason, the development of the Knowledge.io platform may not be completed as contemplated and there is no assurance that it will be fully launched. As such, distributed *Knowledge tokens* may hold little worth or value.

The funds raised in the Token Generation Event are exposed to risks of theft

Knowledge.io will make every effort to ensure that the funds received from the Token Sale will be securely held in an escrow wallet, which is a multi-signature address with access thereto by private keys held by reputable and trusted parties and that fiat currency in an appropriate bank. Further, upon receipt of the sales proceeds, Knowledge.io will make every effort to ensure that the funds received by it will be securely held through the implementation of security measures. Notwithstanding such security measures, there is no assurance that there will be no theft of the cryptocurrencies as a result of hacks, sophisticated cyber-attacks, distributed denials of service or errors, vulnerabilities or defects on the Token Sale website, in the smart contract(s) on which the escrow wallet and the Token Sale relies, on any other blockchain, or otherwise.

Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. In such event, even if the TOKEN SALE is completed, Knowledge.io may not be able to receive the cryptocurrencies raised and Knowledge.io may not be able to any use such funds for the development of the Knowledge.io platform. In such case, the launch of the Knowledge.io platform and the structuring and licensing of any future business lines might be temporarily or permanently curtailed. As such, distributed *Knowledge tokens* may hold little worth or value.

2. RISKS RELATING TO PLATFORM

The Knowledge.io platform is developed, operated, and maintained by Knowledge.io. Any events or circumstances which adversely affect Knowledge.io or any of its successor operating entities (collectively referred to herein as "Knowledge.io Companies") may have a corresponding adverse effect on the Knowledge.io platform and any future business line. Such adverse effects would correspondingly have an impact on the utility, liquidity, value and the price of the *Knowledge tokens*.

Knowledge.io may be materially and adversely affected if it fails to effectively

manage its operations as its business develops and evolves, which would have a

direct impact on its ability to maintain the Knowledge.io platform and/or launch any future business lines.

The financial technology and cryptocurrency industries in which the Knowledge.io Companies compete have grown rapidly over the past several years and continue to evolve in response to new technological advances, changing business models, shifting regulations and other factors. As a result of this constantly changing

environment, Knowledge.io may face operational difficulties in adjusting to the changes, and the sustainability of Knowledge.io will depend on its ability to manage its operations, ensure that it hires qualified and competent employees, and provides proper training for its personnel. As its business evolves, Knowledge.io must also expand and adapt its operational infrastructure. Knowledge.io's business relies on its blockchain-based software systems, cryptocurrency wallets or other related token storage mechanisms, blockchain technology and smart contract technology. All of these systems, tools, and skillsets represent complex, costly, and rapidly changing technical infrastructure. In order to demonstrate continued ability to effectively manage technical support infrastructure for the Knowledge.io platform, Knowledge.io will need to continue to upgrade and improve its data systems and other operational systems, procedures, and controls. These upgrades and improvements will require a dedication of resources and are likely to be complex may increasingly rely on hosted computer services from third parties that Knowledge.io do not control. If Knowledge.io is unable to adapt its systems and organization in a timely, efficient, and cost-effective manner to accommodate changing circumstances, its business, financial condition and results of operations may be adversely affected. If the third parties whom Knowledge.io relies on are subject to a security breach or otherwise suffer disruptions that impact the services Knowledge.io uses, the integrity and availability of its internal information could be compromised, which may consequently cause the loss of confidential or proprietary information and economic loss. The loss of financial, labor or other resources, and any other adverse effect on Knowledge.io's business, financial condition and operations, would have a direct adverse effect on its ability to maintain the Knowledge.io platform. Any adverse effects affecting Knowledge.io's business or technology are likely to also adversely impact the utility, liquidity, and value of the *Knowledge tokens*.

Knowledge.io may experience system failures, unplanned interruptions in its network or services, hardware or software defects, security breaches or other causes that could adversely affect its infrastructure network, and / or the Knowledge.io platform

Knowledge.io is not able to anticipate when there would be occurrences of hacks, cyber-attacks, distributed denials of service or errors, vulnerabilities or defects in the Knowledge.io platform, the smart contracts on which Knowledge.io, or the Knowledge.io platform relies or on any other blockchain. Such events may include, for example, flaws in programming or source code leading to exploitation or abuse thereof. Knowledge.io may not be able to detect such hacks, cyber-attacks, distributed denials of service errors vulnerabilities or defects in a timely manner, and may not have sufficient resources to efficiently cope with multiple service incidents happening simultaneously or in rapid succession.

Knowledge.io's network or services, which would include the Knowledge.io platform, could be disrupted by numerous events, including natural disasters, equipment breakdown, network connectivity downtime, power losses, or even intentional disruptions of its services, such as disruptions caused by software viruses or attacks by unauthorized users, some of which are beyond Knowledge.io's control. Although Knowledge.io has taken steps against malicious attacks on its appliances or its infrastructure, which are critical for the maintenance of the Knowledge.io platform, there can be no assurance that cyber-attacks, such as distributed denials of service, will not be attempted in the future, that Knowledge.io's enhanced security measures will be effective. Knowledge.io may be prone to attacks on its infrastructure intended to steal in-

formation about its technology, financial data or user information or take other actions that would be damaging to Knowledge.io and/or holders of the *Knowledge tokens*. Any significant breach of Knowledge.io's security measures or other disruptions resulting in a compromise of the usability, stability, and security of the Knowledge.io platform may adversely affect the utility, liquidity and/or trading price of the *Knowledge tokens*.

We are dependent in part on the location and data center facilities of third parties

Knowledge.io's current infrastructure network is in part established through servers which it owns and houses at the location facilities of third parties, and servers that it rents at data center facilities of third parties. If Knowledge.io is unable to renew its data facility lease on commercially reasonable terms or at all, Knowledge.io may be required to transfer its servers to a new data center facility, and may incur significant costs and possible service interruption in connection with the relocation. These facilities are also vulnerable to damage or interruption from, among others, natural disasters, arson, terrorist attacks, power losses, and telecommunication failures. Additionally, the third-party providers of such facilities may suffer a breach of security as a result of third-party action, employee error, malfeasance or otherwise, and a third party may obtain unauthorized access to the data in such servers. Knowledge.io and the providers of such facilities may be unable to anticipate these techniques or to implement adequate preventive measures.

General global market and economic conditions may have an adverse impact on the Knowledge.io Platform's operating performance, results of operations, and cash flows

The Knowledge.io platform, and Knowledge.io will be affected by general global economic and market conditions. Challenging economic conditions worldwide have from time to time, contributed, and may continue to contribute, to slowdowns in the information technology industry at large. Weakness in the economy could have a negative effect on such business, operations and financial condition, including decreases in revenue and operating cash flows, and inability to attract future equity and/or debt financing on commercially reasonable terms. Additionally, in a down-cycle economic environment, Knowledge.io may experience the negative effects of a slowdown in trading and usage of the Knowledge.io platform. Suppliers on which Knowledge.io relies for servers, bandwidth, location and other services could also be negatively impacted by economic conditions that, in turn, could have a negative impact on Knowledge.io's operations or expenses. There can be no assurance, therefore, that current economic conditions or worsening economic conditions or a prolonged or recurring recession will not have a significant, adverse impact on Knowledge.io's business, financial condition and results of operations, and hence, the Knowledge.io platform. Any such circumstances would then correspondingly negatively impact the utility, liquidity, and/or trading price of the *Knowledge tokens*.

Knowledge.io or the Knowledge tokens may be affected by newly implemented regulations

Cryptocurrency trading is generally unregulated worldwide, but numerous regulatory authorities across jurisdictions have been outspoken about considering the implementation of regulatory regimes which govern cryptocurrency or cryptocurrency markets. Knowledge.io or the *Knowledge tokens* may be affected by newly implemented regulations relating to cryptocurrencies or crypto-

currency markets, including having to take measures to comply with such regulations, or having to deal with queries, notices, requests or enforcement actions by regulatory authorities, which may come at a substantial cost and may also require substantial modifications to the Knowledge.io platform. This may impact the appeal of the Knowledge.io platform and result in decreased usage of the Knowledge.io platform and the *Knowledge tokens*. Further, should the costs (financial or otherwise) of complying with such newly implemented regulations exceed a certain threshold, maintaining the Knowledge.io platform may no longer be commercially viable, and Knowledge.io may opt to discontinue the Knowledge.io platform, and/or the *Knowledge tokens*. Further, it is difficult to predict how or whether governments or regulatory authorities may implement any changes to laws and regulations affecting distributed ledger technology and its applications, including the *Knowledge tokens*.

Knowledge.io may also have to cease operations in a jurisdiction that makes it illegal to operate in such jurisdiction, or make it commercially unviable or undesirable to obtain the necessary regulatory approval(s) to operate in such jurisdiction. In scenarios such as the foregoing, the utility, liquidity, and/or value of Knowledge tokens will be adversely affected.

There may be unanticipated risks arising from the Knowledge tokens

Cryptographic tokens such as the *Knowledge tokens* are a relatively new and dynamic technology. In addition to the risks included in the above discussion of risk factors, there are other risks associated with your purchase, holding, and use of the *Knowledge tokens*, including those that Knowledge.io cannot anticipate. Such risks may further appear as unanticipated variations or combinations of the risks discussed above.

3. RISKS RELATING TO HIGHLY SPECULATIVE PURCHASE

The valuation of the *Knowledge token* may not be transparent, and is highly speculative. The *Knowledge tokens* do not hold any ownership rights to Knowledge.io, the Knowledge.io platform, or their assets. The *Knowledge tokens* will not be backed by any tangible asset. *Knowledge tokens* are designed for use on the Knowledge.io platform and therefore would be speculative as an investment. If a market develops, traded price can fluctuate greatly within a short period of time. There is a high risk that you could lose your entire purchase price if the *Knowledge tokens* are not purchased for use. In the worst case scenario, the *Knowledge tokens* could be rendered worthless.

4. RISKS OF MONEY LAUNDERING AND TERRORIST FINANCING

Knowledge.io has taken steps to ensure participants in the Token Sale are not utilizing the purchase or sale of tokens for money laundering or to fund terrorism. However, *Knowledge token* holders and users would be adversely affected if law enforcement agencies investigate any alleged illicit activities related to the *Knowledge token*.



KNOWLEDGE

Knowledge In. Knowledge Out. That's Knowledge.io

knowledge.io