YDENTITY™ ICO

WHITEPAPER VERSION 1.0

BRIGHT NATION LIMITED

Utility Meta Token
Risk Management • Risk Profiling • Identity and Community
Insurance • Investment • Banking • Dating • Social Media • Gaming

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Executive Summary

Ydentity™ is a unique offering brought to you by Bright Nation Limited ("**Bright Nation**"). The Ydentity™ token is a tradable application program interface (API). This ERC20 token has a purchase mechanism under BTC or ETH and is designed to address the main elements of General Data Protection Regulation (GDPR) in a time of technological advancement when the consumer has never been more aware of the value of their data. As data ownership moves from corporations and their shareholders to the consumer, Ydentity™ offers a scientifically proven solution to the user's identity based on cognitive neuroscience findings developed by Bright Nation's Founder and Chairman, Dr. Fred Jumelle.

The Ydentity™ token is an identity constructed around a scientific assessment of the individual user's risk habits. A series of 30 'yes/no' questions presented to the user randomly from 300 questions allows the system to categorise each user into one of three risk profiles: risk averse; risk dependent; and risk seeking. The result provides an anonymous identity that allows the user to navigate the web without having to disclose their real identity. On purchasing a token and receiving their Ydentity™, users are then invited to enjoy a 30-day free trial of limited features of the Ycommunity. On full sign-up to the Ycommunity ,the user gains full access to a decentralised peer-to-peer organisation managed by its members. Membership allows users to decide which service providers they choose to disclose information to. Blockchain technology allows Bright Nation to guarantee that no company website can identify or track the user's true identity until the point when the user chooses to proceed with approved service providers within the Ycommunity. Members are expected to be compliant with the rules and ethics of the Ycommunity and are incentivised to introduce compliant companies and partners who are willing to accept the Ydentity™ token as a valid form of identification. As the Ycommunity grows in the number of users, partners and service offers so will the interest for the Ydentity™ scientific claims. The tokens are tradable and transferable until they become a unique Ydentity™ stored in a non-custodial wallet.

Ydentity™ integrates blockchain technology to create a risk-identity token that is located as a confluence of psychological testing and government identification and meets with defence-grade KYC and cybersecurity standards. It addresses the fact that a government ID does not contain built-in information that allows people to interact with others and also the fact that an estimated 1.1 billion people around the world, including many millions of children, women and refugees, lack any form of officially recognised identification. This prevents them from having access to education, healthcare, voting rights or opening a bank account, and puts them at a higher risk of human trafficking.

The first round of the pre-launch of the Ydentity™ ICO on May 7, 2018 creates a milestone in the expansion of Bright Nation's Ycommunity. The second round will be held in September, 2018, prior to the core offering in December, 2018. The purchase of Ydentity™ tokens can be used by companies for onboarding, risk underwriting and assessment, and by users for the authentication of products or services and compatibility and self-protection while surfing the Web. Currently, the executive and advisory board believes that Ydentity™ could have many uses including, but not limited to the insurance, investment, dating, recruitment, gaming and social media industries, as detailed in this whitepaper. The structure of Ydentity™ also supports the UN Sustainable Development Goal Target 16.9, which aims to provide legal identity for all by 2030.

The Ydentity™ app is available to test at:

http://ydentity.org/app/ydentity.apk

At the time of writing (April 2018) the app is available for Android only.

The iOS version will follow soon.

The ICO will span four phases:

Airdrop
- 1st May – 7th May 2018 from 08:00 GMT
- 10 million Ydentity™ tokens are available for free.

First round of presale
- 7th May 9:00 GMT – 21st May 2018
- 60 million Ydentity™ tokens will be sold at a 35% discount

Second round of presale
- 10th September – 24th September 2018
- 80 million Ydentity™ tokens will be sold at a 25% discount

Initial Coin Offering
- 3rd December – 14th January 2019
- 200 million Ydentity™ tokens will be sold at decreasing discounts
  - Two first weeks at 20% discount
  - Third week at 15% discount
  - 10% discount until the cap of USD 50 million is reached

The proceeds will ensure that there is enough liquidity and material to achieve our growth targets.

- 30% will be allocated to technology development
- 10% will be allocated to cyber security infrastructure
- 10% will be allocated to regulatory compliance
- 30% will be allocated to marketing costs and promotion
- 20% will be allocated to ensure liquidity and cover overheads

1. Overview

Ydentity™ is focused at the centre of risk management in a shared economy. Risk management is an important part of individuals' and corporations' daily existence. We all practice risk management to varying degrees and the insurance or risk industry has practiced mitigation of risk and assessment of risk for decades. Entities, whether individuals or corporations have been classified in three broad categories: those that are risk averse, risk neutral or risk taking. Risk managers are taught this on the first day of college and call upon these categories throughout their careers when assessing risk, mitigating risk, selling products and the acceptance of the risk in the first place.

In the early days of risk assessment, the process involved probability theory and was as simple as assessing an individual's risk appetite by the throw of a coin or dice and what they were prepared to gamble on in successive throws. The same applied to corporations where the history of losses or claims was used to provide simulations of future losses and deem a corporation in one of the three risk categories. These risk assessment actions were commonly referred to as looking through the rearview mirror. Today, probability theory and mathematical modelling are used increasingly for regulatory purposes. However, due to the exponential development of technologies and a rapid increase in the availability of data the demand for predictive analytics and the subsequent addition of forward looking-based scenarios to the risk assessment process are taking centre stage. As a result, behavioural analysis has gained even greater significance within the retail risk management space, for example with the collection of data based on a user's behaviour based on smart phone usage. For example, a person who charges the phone when it is already 90% charged would be seen as risk averse, while someone who waits until the battery is only 1% full could be deemed as falling into the risk taker category.

Ydentity™ takes this process forward in a measured way using cognitive neuroscience based on a unique thesis by Dr. Fred Jumelle. A high level overview of this thesis exists throughout this whitepaper. The theory is the differential in the market and is extensively backed by research data.

Bright Nation has produced a blockchain identity token which is located as a confluence of a psychology experiment and a government identification, based on the premise that a government ID does not contain built-in information to interact with others and that the psychology experiment is too personal and needs to be combined with other data. The use of blockchain technology can represent Ydentity™ as a private key, which in turn is subject to defence grade KYC and cybersecurity standards.

A series of questions based on cognitive neuroscience findings assign a risk averse, risk dependent or risk taker category to the identification which can then be used a meta-token for onboarding customers. It is referred to as a meta-token because it can span all industries and applications. The launch of Ydentity™ would accommodate those requiring a risk scoring mechanism, such as insurance underwriting, or those requiring matching capabilities from a questionnaire

string. Based on the properties of the token, Ydentity™ incorporates an advisory component for members of the type of profile, thereby encouraging greater peer-to-peer interaction through the creation of a Ycommunity. This is based on the premise for example that a risk averse person is unlikely to ask for or accept advice from a risk taker, or that in a psychotherapy relationship if the therapist is risk averse and the patient is a risk taker then the therapy will fail as the advice will not adhere to the logic of the patient. Ydentity™ applies this logic to universal communities.

Ydentity™ is an active token and has a tradable API (Application Program Interface) key. This means it can interact and be interoperable with any other system blockchain and legacy. As such, it exists to establish psychometric identity. The substrata of all communicating applications such as those relating to the insurance industry are therefore able to recognise the token from the API and the Ydentity™. It then applies the business logic from within the token to accomplish actions such as insurance underwriting or entity matching. Each particular application would ingest from Ydentity™ what properties, rights and obligations it uses and becomes a necessary crypto-economic mechanism within that application.
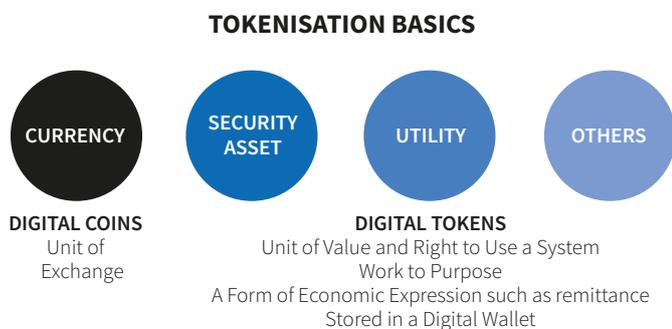
The project finance for Ydentity™ will be raised by an ICO process in four phases. The first phase will be for early adopters to come in at a discount rate to move the token to an MVP (Minimum Viable Product) that can be sandboxed with real customers in accordance with regulatory procedures as the product is developed.

- Ydentity™ seeks to show its differential here by allowing users to evaluate their needs without giving up their true identity. This is expected to be very popular with millennials and will show work to purpose and functionality of the asset and will highlight its benefit to society through its inclusion of best practice.

- Ydentity™ guarantees that it will not pivot from the definition in this whitepaper and that the ICO will address the purpose described here.

- Ydentity™ will also guarantee that any unsold tokens from the ICO will not be burned (destroyed) but rather put on ice with a dated blockchain smart contract for a defined period.

- Ydentity™ also guarantees that it will formally block any contributions from citizens of countries where regulations have not been addressed in the ICO. This is of paramount importance to compliance.

- Ydentity™ is only for personal or corporate use for the purpose described in this whitepaper. It is not designed for investment purposes as clarified in the disclaimer. It will be sold directly to users, whether individuals or businesses.

Bright Nation Limited is audited and followed by a legal counsel which acknowledges our approach. We encourage any other party to take their own legal advice.

For the purpose of discussion, the landscape of token definition is described as follows in the diagram above.

Ydentity™ is defined as a utility token rather than a currency or security. A utility token is like a door key in the physical world. Its function is to open a door for a purpose, in this case to provide a unique Ydentity™ for the user upon activation, and a further option to become a member of the Ycommunity.

TOKENISATION BASICS

CURRENCY   SECURITY ASSET   UTILITY   OTHERS

DIGITAL COINS
Unit of
Exchange

DIGITAL TOKENS
Unit of Value and Right to Use a System
Work to Purpose
A Form of Economic Expression such as remittance
Stored in a Digital Wallet

2. Disclaimer

This ICO is not available to any citizen or tax resident or accredited contributor of the USA as defined below. This ICO is not available to any tax resident of the People's Republic of China, including the Hong Kong SAR and the Macau SAR, Republic of South Korea or Republic of Taiwan. No information is this whitepaper should be considered to be legal, financial, business or tax advice. Readers should consult their own professional advisors before engaging in any activity. Neither Bright Nation Limited/ydentity.org, the team members, advisory board or third parties all mentioned herein shall be liable for any direct or indirect damage or loss whatsoever that may be suffered in conjunction with accessing this whitepaper and the corresponding website. The tokens mentioned herein are issued by Bright Nation Limited, which applies all contributions towards the development of Ydentity™ components in a decentralised blockchain environment for the good and promotion to the digitisation and improved efficiency of world risk management. This whitepaper is intended for general purposes only and does not constitute an investment prospectus for any offer of securities for investment in Hong Kong or any other jurisdiction. Prospective purchasers of Ydentity™ should evaluate all risk. In short, Ydentity™ is an ERC20 Utility Meta Token, secured on a permissioned private blockchain. Based on data integrity security it takes a smart contract approach.

Definition of U.S. Person (Rule 902 of the U.S. Securities Act of 1933)

(1) "U.S. Person" means:
    (i)   any natural person resident in the United States;
    (ii)   any partnership or corporation organised or incorporated under the laws of the United States;
    (iii) any estate of which any executor or administrator is a U.S. Person;
    (iv) any trust of which any trustee is a U.S. Person;
    (v)   any agency or branch of a non-U.S. entity located in the United States;

    (vi) any non-discretionary account or similar account (other than an estate or trust) held by a dealer or other fiduciary for the benefit or account of a U.S. Person;
    (vii) any discretionary account or similar account (other than an estate or trust) held by a dealer or other fiduciary organised, incorporated, or (if an individual) resident in the United States; or
    (viii) any partnership or corporation if:
        (A) organised or incorporated under the laws of any non-U.S. jurisdiction; and
        (B) formed by a U.S. Person principally for the purpose of investing in securities not registered under the Act, unless it is organised or incorporated, and owned, by accredited investors (as defined in Rule 501(a) under the Act) who are not natural persons, estates or trusts.

(2) Notwithstanding (1) above, any discretionary account or similar account (other than an estate or trust) held for the benefit or account of a non-U.S. Person by a dealer or other professional fiduciary organised, incorporated, or (if an individual) resident in the United States shall not be deemed a "U.S. Person".

(3) Notwithstanding (1) above, any estate of which any professional fiduciary acting as executor or administrator is a U.S. Person shall not be deemed a U.S. Person if:
    (A) an executor or administrator of the estate who is not a U.S. Person has sole or shared investment discretion with respect to the assets of the estate; and
    (B) the estate is governed by non-U.S. law.

(4) Notwithstanding (1) above, any trust of which any professional fiduciary acting as trustee is a U.S. Person shall not be deemed a U.S. Person if a trustee who is not a U.S. Person has sole or shared investment discretion with respect to the trust assets, and no beneficiary of the trust (and no settlor if the trust is revocable) is a U.S. Person.

(5) Notwithstanding (1) above, an employee benefit plan established and administered in accordance with the law of a country other than the United States and customary practices and documentation of such country shall not be deemed a U.S. Person.

(6) Notwithstanding (1) above, any agency or branch of a U.S. Person located outside the United States shall not be deemed a U.S. Person if:
    (A) the agency or branch operates for valid business reasons; and
    (B) the agency or branch is engaged in the business of insurance or banking and is subject to substantive insurance or banking regulation, respectively, in the jurisdiction where located.

(7) The International Monetary Fund, the International Bank for Reconstruction and Development, the Inter-American Development Bank, the Asian Development Bank, the African Development Bank, the United Nations, and their agencies, affiliates and pension plans, and any other similar international organisations, their agencies, affiliates and pension plans shall not be deemed "U.S. Persons

Ydentity™ is NOT:

• a payment token and has no intrinsic value.

• for speculative investment

• an equity token in its own right.

It is understood that to this point no action has been taken to comply with any law, regulatory requirements and restrictions applicable to any particular jurisdiction and these terms and conditions will be made available as new regulations emerge.

3. Token Issuer: Bright Nation

Bright Nation is a Hong Kong company founded in 2012. It specialises in projects and project finance involving the use of exponential technologies such as blockchain, artificial intelligence (AI), Internet of Things (IOT), big data, cloud computing and mobility. It primarily addresses the development of a generic meta-token platform for all business sectors and is dedicated to developing and marketing blockchain-based utility tokens.

- Bright Nation's vision is to convert cognitive neuroscience discoveries into identity and assurance tokens for the flourishing Fintech and Insurtech space.

- Bright Nation's mission is to share its belief in applying cognitive neuroscience research protocols and results to design and develop active tokens that will contribute greatly to help users learn about their interactive capacities and limits in order to make better decisions and choices. Subsequently, we aim to provide members with the opportunity to self-assign an alternative type of sovereign identity, known as Ydentity™, for authentication purposes, as well as for the onboarding of products and services while promoting self-protection against Web threats and identity theft.

- Bright Nation's team of insurance, reinsurance, finance, AML and accounting and media professionals was assembled around the company founder, Dr. Fred Jumelle. His records include medical, cognitive and behavioural education research and publications in the field of psychometric tests applied to the non-clinical population, as well as clinical experience in addictive behaviors and disorders.

- Bright Nation's product: Ydentity™ (aka YDY), is a meta-token designed to passport the results of a questionnaire of 30 questions that identify the risk-identity of a natural person to different distribution channels to achieve a risk assessment and profiling of users as an essential ingredient to operate or adjudicate rights. Ydentity™ is also an authentication key of a new kind. Ydentity™ uses an HLF (hyperledger fabric) wallet supported by defence grade KSI hashing and time stamping. It supports ERC20 interoperability via a Hyperledger Burrow connector. It does not use Ethereum as a platform.

4. The Ydentity™ Project

The **Ydentity™** project is based on utility tokens. Societies already work with tokens and have done for some time – they have just not been in digital form on a blockchain. Tickets, paper money, land leases are examples of some of the most common tokens. These tokens can be traded, transferable or non-transferable, and can exist in fixed or unlimited quantities. All types of tokens are subject to regulation in business and issuers should be respectful of these laws across multiple jurisdictions.

However, a trust deficit does occur between people in many transactions and as we know the Internet is not attributable. People and corporations want assurance and reassurance against mistreatment and a good example would be the non-payment of claims in an insurance transaction. This is where the value of blockchain and smart contracts is utilised to reduce costs and ensure accuracy.

Ydentity™ is the world's first risk identity blockchain token based on cognitive neuroscience to evaluate risk and provide a predictive model for customer onboarding and risk underwriting. The underlying blockchain platform is token-driven. It is cryptographically protected to defence grade standards and is regulated by a smart contract. **Ydentity™** is a utility token in limited supply. It is closed source, unique, non-transferable and non-recyclable which tokenises the risk profile that can be voluntarily used for authentication, risk assessment, compatibility and self-protection. The **Ydentity™** risk profile token could provide a new underwriting instrument for several markets including but not limited to insurance, investment, social networking, dating and gaming.

Ydentity™ is built on cognitive neuroscience theory that has been validated by extensive research that includes non-clinical population studies and human brain mapping using functional Magnetic Resonance Imaging (fMRI). Individual user risk profiling is based on a psychometric test that measures an individual's cognitive abilities and classifies each users profile into one of three categories.

Ydentity™ is the first risk-identity token to use a scientific method of evaluation of the member's initial condition to issue a predictive model for onboarding and underwriting. The mathematics model behind Ydentity™ and its predictive logic creates a function between inputs (brain chemicals and functions) and outputs (social behaviours), and places initial condition at the centre of multiple decision use cases wherein the user can "ydentify", without the risk of exposing his or her real identity online. The state variables are dependent on inputs and the initial condition.
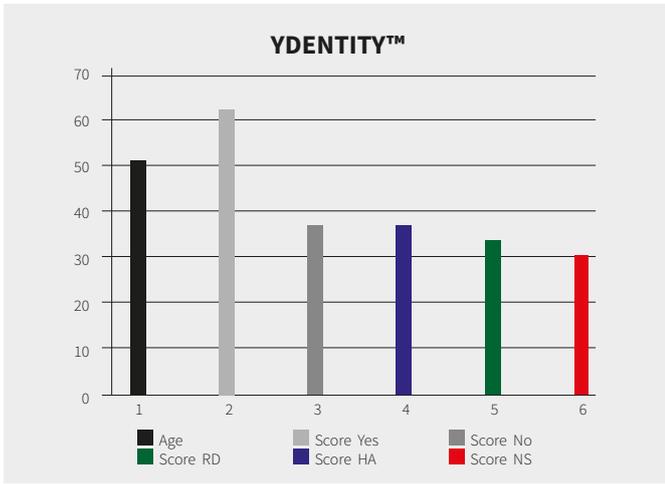
Ydentity™ risk profiles are classified into three categories:

- Risk Averse — refers to Harm Avoidance (HA)

- Risk Dependent — refers to Reward Dependency (RD)

- Risk Taker — refers to Novelty Seeking (NS)

These profiles are determined from a self-administered psychometric test administered in a questionnaire format. The balance of chemicals in the brain is unique to each person and defines the personality. It directly relates to risk management habits and is used to predict social behaviours. Although the results may only be indicative, the bibliography of this type of test suggests that they produce a reliable account of the individual's brain activation model and shows an acceptable fit to be used as a predictive tool for the purpose of onboarding, advising and recommending people or services and the matching of individuals. The result is a risk score which creates a **Ydentity™** profile which is unique and refers only to gender, age, response and latency to respond. This offers a new method or system for the underwriting of risk based on the three risk categories described above which have existed since time immemorial.

The sample risk scoring is shown below. These scores could be used for underwriting and risk analysis.

EU General Data Protection Regulations (GDPR) – New Rights of the Individual re their Personal Data	Ydentity™
Right to be Informed Right to be informed of the personal data you hold, of how you use it, of any breach, and of any disclosure or usage to third parties	✓
Right to Access Right to access of own personal data, and to any processing or sharing details	✓
Right to Consent Right to withdraw consent or restrict the processing or sharing of their data, including for the purposes of direct marketing. Explicit and unambiguous consent must be obtained	✓
Right to be Forgotten Right to request the deletion or removal of personal data whether there is no compelling reason for its continued processing	✓
Right to Correct Right to rectify data if inaccurate or incomplete	✓
Right to Data Portability A copy of the data held may be requested by the individual	✓

YDENTITY™

Legend:
- Age (black)
- Score Yes (light gray)
- Score No (gray)
- Score RD (green)
- Score HA (blue)
- Score NS (red)

The decentralised peer-to-peer system encourages transparency of communication between individuals, corporations and governments. The Ycommunity ecosystem will also include a group of Watchdogs, who are selected from the group of experts from each geographic region. Watchdogs are required to comply with a KYC full background check prior to being appointed. The function of the Watchdog will be to report any behaviour that does not comply with our rules and code of ethics. The Ycommunity is essentially built as a self-regulating and policing mechanism and is structured in such a way as to prohibit the use of **Ydentity™** for criminal activity. The CRO of Bright Nation will act as Ombudsman to oversee the Watchdogs. Sanctions are delivered to members where required on two levels:

- temporary removal of the member until investigation is complete

- member reported to authoritites including organised crime divisions

The **Ydentity™** trademark symbol is shown below. This is important as it provides a base for the peer-to-peer membership that forms the Ycommunity. This community is more valuable than money and provides value for its members via a path to optimised risk management.
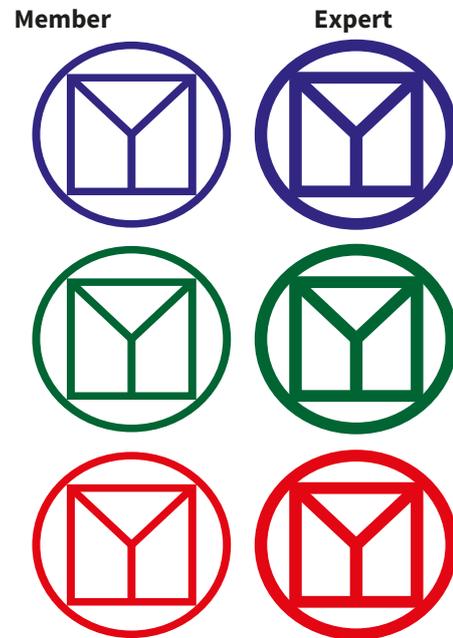

The **Ydentity™** risk categories are color-coded to provide Ycommunity members with their identity accreditation as shown below. The symbols are based on the **Ydentity™** trademark above. The thickness of the line indicates the difference between a member and an expert, while the colours are used to build a matching process between risk categories. These leverage the **Ydentity™** or peer-to peer-aspects in that if an existing member incentivises another in the ecosystem they will receive free tokens for peer-to-peer referral.

Ycommunity™ Groups

Member	Expert

Ydentity™'s commitment to user interaction, test results and incentives and bonuses are detailed in Appendix 3 of this whitepaper entitled 'Ydentity™ Promises', which will be visible to users on the ydentity.org website.

Ydentity™ is also fully compliant with new EU General Data Protection Regulations (GDPR) which will come into effect on May 25, 2018.

GDPR represents the most significant change to EU privacy law in two decades and applies to organisations (wherever they reside) relating to privacy and data protection of the personal data owned by EU individuals.

Ydentity™'s use of blockchain and KSI technology is ideally suited to meeting these new requirements.

LOGICAL ARCHITECTURE

Application Layer	Financial Service	Healthcare	Supply Chain	Government
Service Layer	Smart Contract	Token	Coin	Indentity	Oracle
Distributed Data Layer	Global State	Blockchain	Transaction	Consensus
Virtual Platform Layer	Virtual Machine		Sandbox Container	
Network Layer	P2P Network		Overlay Network	
Infrastructure Layer	Public Cloud	Private Cloud	Crypto Cloud	

IMPLEMENTATION ARCHITECTURE

Application Layer	Insurance		Healthcare	
Service Layer	Ydentity™	Membership	Oracle Service	
Distributed Data Layer	State DB	Chain Log	RBFT	NoSQL	RDMS
Virtual Platform Layer	Docker	Corda JVM		EVM
Network Layer	Hyperledger Fabric	Ethereum		Corda
Infrastructure Layer	Azure	AWS	Alicloud	KSI

5. Technical Description

Token architecture replaces, by moving to a blockchain, what has been traditionally called the data centre which stores all information, including the private keys of digital assets, and inadvertently creates a cybersecurity attack surface. Ydentity™ decentralises the centralised data centre by tokenising the keys and storing the identity on the blockchain. However, the actual data or values are stored off-ledger in encrypted storage to minimise the cyber-attack surface risk and to atomize the value. High performance services are then added using peer-to-peer smart contracts. Wallets are used to store the public keys and the private keys are stored away so they cannot be lost or stolen. Guardtime's defence grade security offering used here acts as a warranty and protects this key by using e-discovery techniques to bring them back if lost.

The Ydentity™ token is implemented on Hyperledger Fabric, a secure, enterprise grade, permissioned blockchain, using a smart contract service interface to interact with client wallets, distributed ledger infrastructure, and external systems. On-chain data is simply a hash of its off-chain profile information that guarantees the scalability, throughput and performance of the Ydentity™ token.

SHARED LEDGER   **SMART CONTRACT**

PRIVACY   **CONSENSUS**
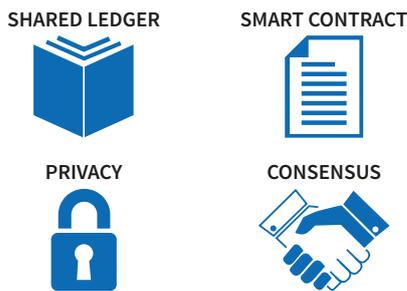
The Ydentity™ platform is defined by a multi-layered architecture. A layer is a horizontal partitioning of the system into weakly coupled groups. The distinct layers bring together components of the system and allow them to interact with each other in a controlled and coherent manner. It also prevents change propagation, where an upper layer would rely on the lower layers to provide functionality and support.

Tokens have been made possible by the blockchain substrate and the use of smart contracts, which are small pieces of executable software code that execute on a precondition. Active tokens have tradable API keys which enable a built-in function of Ydentity™ to copy the data and business logic it needs via a scripting language to be autonomous and executable. Limited edition tokens are launched in one smart contract via an ICO and cannot be traded to another smart contract.

Ydentity™ Digital Wallet

The Ydentity™ token resides in a digital non-custodial wallet and interfaces with the members via an artificial intelligence Chatbot, represented as a gender free gaming character. The symbol Y refers to a three-dimensional entity that represents the three states of risk described above.

The private key of the token must not be traceable to any person. The email address and phone number are collected in the sign on process and diverted to a digital wallet where the key is hashed and stored as an irreversible private key. Users then have access to cold storage to retrieve the key in the event of loss. To maintain absolute anonymity the email address and phone number are discarded after the transfer of the Ydentity™ to the wallet. The properties of the wallet are shown below:

- The keys in the wallet and the private keys of Ydentity™ are stored in the form of a token in the blockchain to allow access to the user. The private key is protected from loss via cold storage device retrieval if and when required. Following this the value of the digital asset is atomised to reduce concentration risk via decentralised system storage and a single point of failure.

- This is the business layer where the user utilises the Ydentity™ keys to gain access to the business logic and value from the system. Finally, the services are centralised to serve the ecosystem across high performance servers or smart contracts.

Further information on technical design is available in the Ydentity™ Technical Design document, available on documented request and completion of a non-disclosure agreement (NDA).

6. Marketing and Use Cases

6.1 ICO Marketing

Marketing is a primary function for any token-based environment due to the innovation and the necessity to enhance awareness of exponential technologies and educate users on the benefits they can bring to the industry and contributors alike. The following marketing plan is to be followed.

The Ydentity™ token is designed to provide a platform that allows easy access to products and services for those who have an existing form of government identification. In addition, the Ydentity™ token is designed in line with the UN Sustainable Goal Development Target 16.9, which aims to provide access to essential services including healthcare, education, insurance, banking and micro-credit to those estimated 1.1 billion people globally who are unable to access such facilities as a result of not having a recognised form of identification.

- PR announcements to the informed press of what is being launched in the short term with Ydentity™.

- Implementation of social media strategies and delivery of personal presentations and webinars.

- Creation of partnerships with various affinity organizations and associations, for example NGOs and international federations.

- Creation of affinity groups and networks.

- Development of strategic partnerships with parties from other industries where Ydentity™ may be deemed relevant and useful.

The diagram below shows how Ydentity™ allows a member to use Ydentity™ for discovery, awareness and pre-onboarding (steps 1-4) before making the decision to disclose relevant information to a supplier and make payment (steps 5-6). These two last steps are beyond the scope of Ydentity™.

ICO marketing is required prior to the launch. This whitepaper will be supported by a website showing the countdown of token sale, and information could include videos, an executive summary, press releases, FAQs.

ICO Marketing activities are divided into ten sections including, but not limited to, community marketing, influencer marketing, ICO listing, content marketing, paid advertising, search engine optimisation, PR marketing, inbound marketing, social media marketing, video marketing.

The CMO will also be required to work with members of the executive team to develop elevator pitches, organise interviews, and to develop a social media strategy to include blogs and posts as well as entries on Slack, Medium, WeChat, Telegram, LinkedIn, Facebook and other relevant sites.

6.2 Use Cases

There are several use cases where scientific risk assessment has been not yet been accessed in the peer-to-peer world of blockchain. The following examples list what we currently see as the primary use cases for the Ydentity™ token at this stage of development:
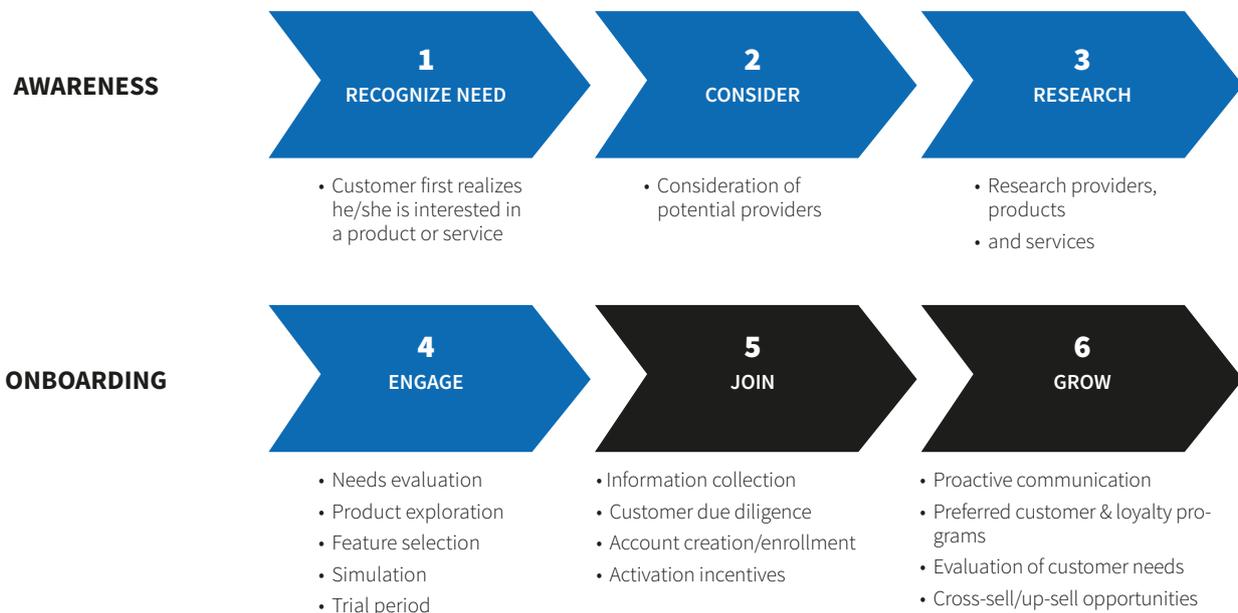
6.2.1 Online insurance policy:

The principle is based on the theory that the pricing of a policy depends on the risk-profile of the subscriber.

6.2.2 Online investment, banking and credit:

The principle is based on matching the investor risk-profile to the investment risk level.

6.2.3 Online dating and job searching:

The principle is based on helping parties to match risk-profiles prior to engagement.

AWARENESS

1 RECOGNIZE NEED
- Customer first realizes he/she is interested in a product or service

2 CONSIDER
- Consideration of potential providers

3 RESEARCH
- Research providers, products
- and services

ONBOARDING

4 ENGAGE
- Needs evaluation
- Product exploration
- Feature selection
- Simulation
- Trial period

5 JOIN
- Information collection
- Customer due diligence
- Account creation/enrollment
- Activation incentives

6 GROW
- Proactive communication
- Preferred customer & loyalty programs
- Evaluation of customer needs
- Cross-sell/up-sell opportunities

6.2.4   Social media user protection:

The principle is based on enhancing members' safety by enabling them to understand the risk-profile of the person who has sent the request before accepting the request or choosing to interact.

6.2.5   Online gaming user-protection:

- The principle is based on assigning a risk-profile label to a game. Ycommunity watchdogs in different regions will submit a report to members based on the guidelines of **Bright Nation Limited**. This facility is designed to help members understand the **Ydentity™** risk-profile of themselves and of the game before engaging. .

7. Competition

At the time of writing there is no competing or similar offering in the blockchain token world and is not likely to be unless the IP is copied. This is because it is a world first and based on the uniqueness of a thesis based on scientific research.

While other forms of risk profiling systems do exist in social media and for use in financial services underwriting and matching of people they are based on behavioural science rather than psychometric test measurements based on published cognitive neuroscience research.

8. Regulatory Issues

Regulatory compliance is a key part of launching **Ydentity™**. Bright Nation has engaged outside professionals to assess the proposed ICO and has been advised that it is compliant in all relevant jurisdictions. Working with the regulator early is paramount in order that they understand when the product becomes part of other product offerings in their sandbox. Onboarding of customers is the most complex of activities when building an ecosystem and this process provides a smooth transition to that function.

Sandboxing is vital part of acceptance and as such the **Ydentity™** wallet will have a pre-market test of the questionnaires in English, Chinese, Arabic and other languages. This pre-market sample test will be given to 1000 potential customers to correlate the reliability of **Ydentity™** (CRONBACH). CRONBACH is the function of the number of items in a test, the governance between item pairs and the variance of total score. Scientific documents that have benchmarked psychometric tests between countries such as Chinese populations show that the results are similar.

In the past the world's insurance regulators have waited for new products to be created and then reviewed and subsequently approved or rejected the products. This delay is no longer possible with the advent of a blockchain layer over the Internet as many Insurtech companies are now delivering apps and with no jurisdiction with blockchain/internet regulatory arbitrage. Issues can occur for the regulator if they do not step up to the same timing as the development community. In fact, regulators are developing their own technology, known as Regtech in order to deal with this changing environment.

The prime directive of regulation is to protect the policyholder from bad practice and products and consequently the development of global standards to promote good market conduct and best practice.

The favoured approach here is sandboxing, where developers submit their business model ideas and subsequently their beta product into a controlled environment to the regulators so that they may ascertain the effect and benefits to the policyholder in advance without any danger to the policyholder.

Ydentity™ will be sandboxed in various jurisdictions for the target market, which in turn will guarantee customer acceptance. This whitepaper believes that if the token can be shown to be purposeful and add value to the industry and stakeholders it will not be subject to securities regulation but rather fall under the licensing regulations globally or regionally of that particular business sector.

Today all securities offered in the USA must be registered with the SEC and follow the rules. Thus, for example, if an ICO was registered in Gibraltar and a US citizen purchased a token then the issuers will run foul of the law and could find themselves in serious trouble. There are tests to determine whether you have a security (Howey) test and people issuing utility tokens need to make sure that their offering fails this test. This will need to be done before any assets are accepted on digital exchanges. Our legal counsel certifies that **Ydentity™** does not constitute a security.

In terms of GDPR compliance and KYC (Know Your Customer) **Ydentity™** is designed to be compliant with GDPR and other privacy acts. This requires **Ydentity™** and defence grade security technology to manage:

- The consent of the data subjects for the data processing
- De-identifying collected customer data to protect privacy
- Informing individuals and regulatory bodies of a data breach
- Safely and securely handling of data across borders

9. Security issues

Security is a major part of enterprise risk management (ERM). In the insurance profession for example solvency and economic capital management is 70% of the required risk management and is heavily regulated. The remaining 30% is operational risk which is a long list of perils that can befall customers, including natural disasters and man-made perils such as terrorism. Arising from this operational risk scenario the number one risk is cyber risk and there is a need for enhanced cyber security in the ERM process. This has become more prominent as the digitisation wave sweeps the world.

The very essence of this whitepaper concerns the digitisation of company data. Therefore how we ensure the cybersecurity of **Ydentity™** should be foremost in our thoughts as we include security and privacy by design into the **Ydentity™** process. Security is not something to be retrofitted and new privacy acts have already taken force in 2018, including the Privacy Shield USA and the Australian Privacy Act. The GDPR Europe is due to be introduced in 25th May 2018 and will demand that more attention is paid to data integrity that goes well beyond confidentiality to enter the realm of encryption delving into the very essence of the data itself and its provenance. The message is that confidentiality is what you get when you have integrity and transparency.

Ydentity™ has selected Guardtime, a supplier of defence grade security Keyless Signature Infrastructure (KSI) as the underlying identification and cybersecurity blockchain integrated with the insurance distributed ledgers from the outset. KSI is a standard for cybersecurity that has been used for the last five years in the defence industry and something that will bring defence grade cybersecurity to **Ydentity™**. Defence grade KSI blockchain technology provides the properties of trust, integrity and provenance on a massive scale. These are properties that stand-alone data does not have, especially if it has been sourced or processed in a separate environment out of direct sight or control. Estonia, the most advanced digital society in the world, has been using KSI blockchain technology for many years now as its e-government integrity layer. In the case of **Ydentity™**, data can be verified without the need for any trusted third parties, keys or credentials that can be compromised. Upon verification, KSI allows **Ydentity™** to ascertain the signing time and the signing entity, thereby ensuring the integrity of the data.

A defence grade Distributed Ledger Technology (DLT) – Blockchain Standard for Digital Identity – is an authentication and signature protocol meant to replace RSA as the standard for digital signatures. In contrast to RSA's reliance on quantum-vulnerable asymmetric key cryptography, DLT is based on Guardtime's quantum-secure KSI technology, which uses only hash function cryptography. Cold storage of the private key is mandatory in **Ydentity™**. People lose their private key through careless actions of storing online gifting to hackers, offline on devices where they can be lost, people dying without giving inheritance of the whereabouts of the private key and also by sending money to bad addresses. **Ydentity™** provides mitigation for these scenarios to protect the value of the market cap of the **Ydentity™** offering and to ensure recovery of the private key. It is this process that renders **Ydentity™** insurable.

10. The Ydentity™ Team

10.1 The Executive Team:

Dr Fred Jumelle, M.D.: Executive Chairman

Dr. Fred Jumelle has a long record of accomplishment in the fields of medical statistics, cognitive and behavior sciences including research and publication of a transversal study applying the TCI of Cloninger to a non-clinical population as well as clinical experience in addictive behaviors and disorders. He also has significant business experience. After several years on the board of a marketing company in the United States, he returned to complete his medical education in France and became a specialist in Addictive Disorders and practiced medicine in Luxembourg both in the public and private sectors. Due to his large scope of education and specific interest in biosocial theory and the result of various neuroscience discoveries, he started two research and development companies in Hong Kong in 2012, namely C-Horses Co. Limited, dedicated to designing digital interactive kiosks (hardware) in partnership with SNT AG in Austria, and Bright Nation Limited, dedicated to designing blockchain API (software). Fred has a Medical Doctorate in medical statistics and a Diploma in Psychiatry and wrote his thesis on the prevalence of temperaments and personality types in a non-clinical population of medical doctors which led to opening a treatment unit for MDs suffering from addictive disorders in France.

Nan Yang: Chief Technology Officer

Nan Yang is a leading technologist who has worked in over 20 countries aligning IT to business strategy and delivering enterprise solutions for major clients in the banking, insurance, telco, healthcare, and government sectors. Nan was global Insurance CTO at Sun Microsystems and Chief Enterprise Architect for Oracle Great China, and developed architecture foundation for Pingan Insurance, HSBC, and Hong Kong Hospital Authority. He also served as Technical Authority on core system renewal for major banks and insurers worldwide. Nan has worked closely with partners such as Hyperledger and Guardtime on enterprise blockchain initiatives for insurance and supply chain finance. He also leads several robo-advisor initiatives in China.

Elizabeth Dooley: Chief Marketing Officer

Elizabeth started her career in London as a journalist. She then spent a decade in southern Africa working as a communications and marketing consultant for NGOs and media outlets before settling in Hong Kong in 2002. In Asia she has worked as a marketing and communications consultant for a range of companies in the finance and insurance sectors, as well as the construction and architectural industries. She currently spends her time between Hong Kong and London and continues to fulfil her role as contributing editor for a number of publications, including Asia Asset Management and The Journal of the Institute of Regulation and Risk, North Asia.

Kenneth Ma: Financial Strategist

Kenneth Ma is a Director of Moore Stephens Advisory Services Limited. He holds a CFA Charter and a CAIA Charter and is a member of the RICS. He has extensive experience in various types of corporate finance, valuations and financial modelling assignments for derivatives trading, public flotation, financing, joint-venture, merger & acquisition, litigation support/expert witness, etc. Kenneth has been involved in conducting and reviewing over 400 valuations, with an estimated total valuation of over HKD160 billion. These valuations were performed on different businesses, financial instruments, intangible assets and fixed assets, covering a wide spectrum of industries such as, natural resources (such as coal mines), information technology (such as cryptocurrencies projects), manufacturing, biological assets, financial services, property development projects and shopping malls.

10.2 The Development Team:

The Ydentity™ development team is a pan-national group of highly skilled technologists and industry leaders. The team has worked in over 20 countries aligning technology to business strategy and delivering cutting edge systems and solutions for major clients in banking, insurance, telco, healthcare, and government. The core team members are ex Sun, Oracle, Accenture, and IBM senior architects and consultants, with deep expertise in Java, IoT, big data, cloud computing, AI, and blockchain. The team works extensively with enterprise distributed ledger technologies such as Hyperledger and Corda on blockchain initiatives for the insurance and financial services industries.

10.3 The Advisory Board:

David Piesse: Chairman of Advisory Board

David has over 30 years of experience in the insurance industry and has combined insurance, information technology and disaster risk management into a lifelong career. He is a member of the Chartered Insurance Institute and a Chartered Practitioner of the British Computer Society. He is the Asia Pacific Ambassador for the International Insurance Society in New York. He started his underwriting career at Lloyds of London and worked in the insurance industry in North America and Europe for ten years before joining the United Nations as a risk management consultant. At the United Nations he was involved in a variety of missions covering many countries on all continents. Some of the work involved reinsurance reporting, microfinance, natural disaster risk management, earth sciences and management information analytics.

Settling in Asia Pacific region permanently David worked in the Chinese insurance industry for several years before taking the position of Global Head of Sun Microsystems based in Hong Kong. In this role he created the blueprint for the insurance company of the future and headed up both

the microfinance program and the Islamic finance program. In 2009 he took over the roles of Chairman of Asia Pacific for Unirisx LLC and in parallel the role of Global Head of Microinsurance to make the Unirisx platform mission to be a standard for microinsurance. He is currently the Head of Asia Pacific for Ultimate Risk Solutions specialising in risk-based capital solvency modelling for the insurance industry. He is also a Member of the Advisory Board for Guardtime, providing cloud computing security. He currently covers all regions of Asia in his current capacities.

Dr. Tom Ludescher, PhD

Dr. Ludescher is an experienced insurance CEO and InsurTech expert, with an extensive background in the strategy and management functions of insurance and technology companies across the globe. He holds a doctorate in insurance regulations from the University of St. Gallen HSG and has been visiting lecturer at HSG in Switzerland and Singapore for the past 15 years, with a special focus on Islamic insurance (takaful). Tom is based in Singapore, where he is Chairman of the Swiss Chamber of Commerce and Industry, Vice President of the European Chamber of Commerce as well as director or advisor to various FinTech and InsurTech startups across Asia, Europe, Australia and the US.

Seymour Matthews

Seymour Matthews is an experienced insurance and reinsurance technician and has spent over 30 years in the Lloyds' market. He specialises in international non-marine "bulk" business usually involving accident and casualty classes including medical and credit. In the last ten years he has been closely involved in developing new and innovative products in and around the insurance industry. Seymour is currently Chairman of Ed Reinsurance brokers - part of the Lloyd's market in London.

Michael Fung

Michael currently serves as the Head of the Analytics of TigerRisk China Partners Limited. His expertise includes economic capital modeling and assessment (including risk-based capital solvency regimes), commercial and treaty pricing, reinsurance structuring, reinsurance modeling, reserve valuation and appraisal valuation for insurance mergers & acquisitions.

Prior to joining TigerRisk, Michael worked at a large Lloyd's syndicate in London as a capital modeling actuary where he was involved in their Solvency II capital assessment. Michael also worked as a consulting actuary at Towers Watson where he provided leadership on consulting projects and developed services in the areas of capital modeling and enterprise risk management for P&C companies across Asia. His clients included government organisations and private sector re/insurers.

Before joining Towers Watson, Michael was Head of Analytics at Willis Re in Hong Kong, where he led a team of actuaries to provide reinsurance advice to clients in China and Hong Kong. He was also a managing director at Ultimate Risk Solutions in Asia Pacific where he was responsible for technical sales and support to clients. He started his insurance career at Tillinghast-Towers Perrin, which is now part of Willis Towers Watson.

Michael holds a Master of Engineering (Honour) degree from Christ Church, University of Oxford in England. He is a Fellow of the Institute & Faculty of Actuaries in the United Kingdom, Fellow of the Singapore Actuarial Society, Fellow of the Malaysian Actuarial Society, and Fellow of the Hong Kong Actuarial Society.

Kim Frisinger

Kim has worked in international investigations and intelligence gathering for over 30 years. The majority of this experience focused on financial crime, with more than 20 years attained in Hong Kong. Kim's most recent position was as Head of Financial Crimes APAC at Citibank's Corporate and Investment Bank where he also led the global rollout of a new data analytics capability related to Anti-Money Laundering and Counter Terrorist Financing (AML/CFT). In the Corporate Bank, Kim was responsible for all regional client vetting and intelligence gathering activities and for the coordination of these initiatives with all other regions. He is a subject matter expert in AML/CFT and Fraud.

Kim began his career as a Special Agent in the FBI where he became an expert on organised crime and financial crime working out of the FBI's New York City office. Kim subsequently joined Chase Manhattan Bank and had senior assignments in New York, London, Germany, and Hong Kong where he served as the regional APAC CFO. After Chase, he began his consulting career, including senior positions at JFK Consulting in France, Hill & Associates (principal), LECG, Control Risks Group and Kinetic Partners.

Kim is a licensed CPA (inactive) in New York and California, a Certified Fraud Examiner (ACFE), and President and Director of the ACFE Hong Kong Chapter. He is a graduate of Hobart College in New York and obtained his MBA from Rutgers University in New Jersey. Kim is also a French and German speaker.

11. Roadmap and Minimum Viable Product (MVP)

MVP Reusable Component API selection: blockchain, smart contract, digital wallet, AI, mobile payment, big data, predictive analytics and others.

- MVP Substrate Development – smart contracts written for Ydentity™.

- Ydentity™ Prototype – development of the prototype to execute a working copy of the development where KRI's (key risk indicators) and KPI's (key performance indicators) are evaluated.

- Regulatory Sandboxing – implementation of the MVP product prototype in the regulatory sandboxes of relevant jurisdictions.

- Beta Testing – beta testing of the MVP with various early adopters and affinity groups in the industry.

- Licensing – obtain licensing from regulators to operate worldwide for the relevant business sectors.

- Launch and Token Sale – launch the complete DAO and put out a token launch for the revenue based Ydentity™ tokens

- Production – worldwide rollout of tokens.

12. Token Sale (Ydentity™)

Before a token sale is agreed upon there has to be some forethought of allocation. Tokens can be given away, allocated to marketing, earmarked for founders and launched into a series of token sales tranches. Unsold tokens are frozen and kept in a smart contract for an agreed period of time and then they fire and become available again. The following was agreed upon for Ydentity™ which is an active token.

The management of Bright Nation Limited will put a cap on the total ICO raised to $50 million. The 'Kickstarter' approach below outlines the Ydentity™ offering to accredited contributors.

The total active tokens will be 1 billion of which:

- 1% will be airdropped free of charge prior to Presale 1

- 44% will be sold in the token sale rounds

- 27% retained by Bright Nation Limited

- 28% allocated to incentivize participation in the ecosystem

- Ydentity™ is an ERC20 token with a purchase mechanism under BTC or ETH.

The ICO will span four phases:-

Airdrop	1% of the tokens are available free of charge
Presale 1 *	Offering 6% of the tokens at 35% discount, lock up tokens for 9 months and create MVP
Presale 2	Offering 8% of the tokens at 25% discount, lock up tokens for 6 months plus trading exchange
ICO	Offering 20% of the tokens at decreasing discounts of 20%-15%-10%
*Presale 1	Group of early adopters taking the most risk
Discount Periods	Reducing discount in three phases stops speculation during ICO
Following presale 1	Onboarding Ydentity™ use cases
Result	Liquidity for project development

We show the token sale procedure for the distribution and sale of the utility tokens to the market. This outlines the nature of the sale and the amount of tokens to be sold. Tokens are limited in supply and no new tokens will be issued after the sale is complete. Ydentity™ is a utility token where people participate in psychometric-based identity across multiple domains. They are non-refundable utility tokens with work to purpose and are not representing any shareholding in Bright Nation Limited.

Description	To provide a token offering for psychometric test-based identity
Token Name	Ydentity™
Issuer	Bright Nation Limited
Substrate	Blockchain – Hyperledger Fabric / GuardTime KSI
Token Supply	1 billion tokens
Timeline	May 2018: Airdrop and Presale 1 (Tokeny) September 2018: Presale 2 (Tokeny) December 2018: Core Sale

The sales strategy of Bright Nation will be amended according to the demographic audience, regulatory landscape and quality of resources in hand.

13. Costs and Revenue Model

"Ydentity™ is freedom but it is not free as freedom is an expensive commodity" - *Dr. Fred Jumelle*

The initial launch price for the **Ydentity™** token is USD 0.25 (without discount) with a monthly fee for cybersecurity protection and account maintenance as part of the membership program.

It is estimated that $6 million will be required on the first round to make **Ydentity™** feasible in the token sale. 30% of the budget will be applied to development, 10% to security, 10% to regulatory and compliance and 30% to marketing and 20% to liquidity and overheads. $1.5 million will be required to reach the MVP stage. The breakdown of the development costs are as follows:

- 30% will be allocated to technology development
- 10% will be allocated to cyber security infrastructure
- 10% will be allocated to regulatory compliance
- 30% will be allocated to marketing costs and promotion
- 20% will be allocated to ensure liquidity and cover overheads

Overall there will be 1 billion tokens issued. 150 million **Ydentity™** tokens will be issued in the first two phases of the ICO to avoid having to fork to another smart contract at a point in the future. **Ydentity™** reserves the right to issue a further 40 million tokens for the **Ydentity™** team to vest over a set period giving a total of 190 million tokens issued at the first phases. This volume of tokens should cover a sufficient revenue base.

Unlike Bitcoin or Ethereum, **Ydentity™** is built around Hyperledger. **Ydentity™** does not have a built-in crypto currency. This means the fork decision is very much in the hands of the issuer. If for some reason the issue does decide to fork because of a change of consensus then a soft fork should be adopted to guarantee compatibility with tokens already issued.

14. Legal

The Company takes its legal obligations seriously and has taken independent legal advice in relation to this ICO. Based on this advice, the ICO will proceed subject to the terms and conditions set out in the Terms of Sale of YDENTITY Tokens (see ydentity.org). The Company has used and will continue to use best efforts to comply with all applicable legislation and regulation. Each **Ydentity™** token is a tradable API token which becomes a unique identity when activated within the Ydentity.org Platform. **Ydentity™** is designed to only provide a new type of identity based on a cognitive test that delivers a hashable string. This whitepaper does not form a prospectus of any sort, is not a solicitation for investment and does not in any way pertain to an offering of securities in any jurisdiction. The content of this whitepaper is for informational purposes only and does not contain any binding commitments. **Ydentity™** tokens cannot be regarded as securities and shall not be considered as securities or any other financial instrument. **Ydentity™** tokens do not represent a right to claim any equity or equivalent right or any other form of participation or any other ownership right in the Company. The tokens do not constitute securities in any relevant jurisdiction and are not refundable. Please note that **Ydentity™** Tokens are not available to be purchased by nationals/residents of certain jurisdictions (see the Terms of Sale of YDENTITY Tokens at **www.ydentity.org**). This white paper has been prepared by the founder of and partners in **Ydentity™** and is based on their detailed knowledge of the cryptocurrency market and blockchain technology. If you require more information concerning our legal terms and conditions, please read our Terms of Sale of YDENTITY Tokens at :
 www.ydentity.org

15. Contact

For more information please contact:

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Elizabeth Dooley	**e.dooley@ydentity.org**
David Piesse	**d.piesse@ydentity.org**

APPENDICES

Appendix 1: Glossary

Blockchain
A way connected computers and participants in an ecosystem reach agreement (as on a claim) across shared data sources. This provides a transparent and auditable process for all involved and facilitates decentralisation to establish trust between parties who no longer have to trust each other. This is all done by computation with no humans involved so one entity is never in control. Not to be confused with bitcoin which is a cryptocurrency. Another name for blockchain is shared ledger.

DAO
A "decentralised autonomous organisation" is a digital organisation that is run through executable code on smart contracts and maintained on a blockchain. The resulting product of this whitepaper is a DAO.

Digital Exchange
A place to register a digital token so it can be legally traded on a market and it is the digital equivalent of the stock exchange. These currently exist in US and a few other countries though currently under regulator's review. Currency, commodity and equity tokens are traded whereas utility tokens are not.

Digital Wallet
This is the mathematical equivalent of a bank account. It is a future indication of a cashless society and China has 650 million people who own digital wallets. These wallets indicate items of personal token ownership including but not limited to currency, insurance, wills, health records, mortgages. There are also cryptocurrency wallets which store the private keys of digital currency and need to be protected from loss.

Ecosystem
A modern term taken from the concept of the sea bed where all players involved are dependent on each other and rely on symbiosis to operate and thrive. Applying this to the blockchain world all stakeholders for example in a death claim would need to be on the blockchain ecosystem such as the insurer, the government, the beneficiaries and the hospitals. Then a claim could be paid very quickly. Any stakeholder not on the blockchain can cause a loophole for fraud or leakage as a complete audit trail and provenance cannot be created. Companies need to ensure that their entire supply chain is registered to the blockchain.

Fintech/Insurtech/Regtech
The unbundling of financial services into smart phone applications is the start of the decentralisation of the banking, securities and insurance industries using blockchain and smart contract. In order to regulate this digitisation which is moving at a fast pace the world's financial regulators are turning to technology to help them monitor this decentralisation and to protect the needs of the customer, investor and policyholder. This has gained the name Regtech. By placing the word –TECH behind an industry we get a digital representation so we also now have MEDTECH and TAKAFUL-TECH plus ENERGYTECH and so on.

Hashable type
A hashable type is just a type that can be hashed. Hashing an object means running it through some function. This function is called a hash function which gives a unique output for a unique input. A unique string of answers from a test result can be hashed.

ICO (Initial Coin Offering)
A way to raise money for project finance or launch new tokens already capitalised similar to the way as IPO sells shares. The entrepreneur keeps the IP and the raised money which is different from venture capital. Before regulation cut in people were raising money based just on an idea and whitepaper but that phase has now ended and the digital asset needs to be shown.

Mobile Payments
The advent of Fintech had given rise to a rapid growth of mobile payments in the cloud and via smart phones. Mobile payments have been prominent in Africa and the Philippines for some time as emerging nations leapfrog into new technologies. This is an indicator of cashless societies, with China leading the way on potential trillion dollar volumes for consumers and banks to move money and even consumers to purchase 7/11 type items. This is particularly relevant for remittances for diaspora where the cost of remittance is extremely low compared to the status quo.

Mutual Company
A private company whose ownership base is made up of its policyholders, who are entitled to receive profits or income generated by the company. This could be done by dividends made on a pro-rata basis.

Non-custodial Wallets
These are hardware, mobile, desktop and paper wallets. With these type of wallets, you have full control of your coins. You get to keep your private keys. These are the safest wallets you can keep your coins in.

Oracles
These are real time data feeds that are fed to a smart contract in a blockchain to trigger a parametric action. An example would be a third party weather feed which triggers a claim automatically for a certain agricultural crop when a certain level of measured weather is reached and is based on a pre-contract agreement. This cannot be reversed so is trusted.

Peer-to-Peer Insurance (Modern Mutuality)

A risk sharing network where an affinity group pools insurance premiums together to insure against a particular or multiple risks and to mitigate against the fact that a traditional insurer may not pay the claim.

Sandboxing

The act of placing the business model and digital token prototype into a controlled environment in the regulator's office so they can assess the value or the risk to the policyholder prior to it is being released to the market as a whole.

Self-sovereign Identity

A digital identity is information about an entity such as person, organization, or IoT device etc. The identity information attributes enable authentication of a user to a system, and authorisation to grant user access to entitled data and services.

Identity traditionally owned and managed by a central repository or authority. Blockchain technology allows individual to own and control its digital identity, called self-sovereign identity, which pushes identity data to the edge where the individual owner can store their own data on their own devices, and share with entities they approve.

Smart Contract

This is a computer protocol represented by executable code to digitally facilitate, verify and enforce the negotiation of a set of rules operating on a blockchain. Insurance is essentially a set of rules in underwriting and claims paying so it is feasible that many insurance contracts can be replaced by smart contracts over time. They allow the performance of credible transactions without the need for third parties. Smart contracts are trackable and irreversible and often exist as buttons on a smart device. Legal procedures such as arbitration and mediation are included in the smart contract plus natural language to describe the nature of the contract. Paying a claim between two parties is a good example of a smart contract.

Utility Tokens

These are digital representations of things we currently use in the physical world today. Examples are land title deeds, loyalty points, currency (dollar bill), gold by the gram, Starbuck coffee cups, door keys and tickets. Some of these tokens have intrinsic value which can be traded as a cryptocurrency and some with a functionality of use as in the insurance tokens described here in this whitepaper. These functional tokens are known as utility tokens which operate in a straight line as opposed to asset, currency or security tokens which are traded with intrinsic value in a circle. Most blockchains come with their own cryptocurrencies such as Ethereum/Ether, where Ether the currency exists as tradable tokens. A distinction needs to be made between these tokens and utility tokens which do work for a purpose and will have their own regulation. A token is built on a smart contract.

Appendix 2: Scientific Underwriting

Ydentity™ is the first identity token to use a scientific method of evaluation for issuing an underwriting instrument. Psychometric tests are a standard and scientific method used to measure individuals' cognitive abilities and predicts behavioural style while psychology is a clinical approach that requires a real interview of a patient. Ydentity™ is built on a background of recent discoveries in cognitive neuroscience and the theory behind the questionnaire has been validated in research including international non-clinical population studies and human brain neuro-mapping by BOLD fMRI. Ydentity™ on-chain data is simply the hash (signature) of one Ydentity™ off-chain profile and data.

The Ydentity™ principle is that the pricing of an insurance policy must account the decisions of the subscriber. Ydentity™ protects the subscriber's personal data and provides a self-awareness of the risk-taking habits while giving to the insurance company non-critical information suitable for policy pricing. Ydentity™ aims to set a new standard for risk profiling by introducing a psychometric test that puts the decision variables at the centre of the underwriting process. The scientific underwriting allows the insurance company to anticipate what kind of social behaviours the subscriber may engage in and to price the policy accordingly.

Appendix 3: Ydentity™ Promises

User Interaction

The level of trust between people or between you and companies has never been so lacking. The web has never been so full of threats, scams and frauds. Your identity and your personal data have never been more valuable. **Ydentity™** has been designed as a solution to empower and protect you while you continue browsing the Web without exposing any details of your true identity, which may be used to gather information and data about you.

With **Ydentity™**, you will benefit from an incredible new tool, a new identity constructed around a scientific assessment of your risk habits. It will make you aware of yourself and aware of others characteristics. You will be in total control of your data and can decide to trigger a payment at the exact moment you want to acquire a product or service based on your anonymous search. We have no knowledge or control over anything you do with your **Ydentity™** after you have activated your token. There is no way any company website you may visit can identify you from your **Ydentity™** and track your real self. These are our promises.

Ydentity™ Test

You have chosen to answer a scientific test to learn more about yourself, to evaluate your risk level and create a new identity to protect yourself while continuing to browse the web in peace. There is no right or wrong answer. All answers are significant whether YES or NO. This test is about yourself and you must answer honestly with care. None of the answers can be edited by design. Only the **Ydentity™** token color result can be broadcast, this is our guarantee.

Test Results

RISK AVERSE (blue token): You are very conscious of the risks you are taking and you always try to minimize your exposure whenever you can. You like to feel safe and secure and protected from liabilities in your life and actions. You are unlikely to initiate changes. You have a tendency to experience anxiety and you may miss opportunities as a result. But remember not everybody is meant to change the world. Don't forget to keep being the nice person you really are!

RISK DEPENDENT (green token): You do take some risks but only if you think the outcome is worth it. You like to observe first but also to catch the opportunities when they are presented to you. To some you may appear greedy sometimes but it suits you well. You have good money management habits. You are unlikely to initiate important changes and you can recover well from frustration because you think life is beautiful. Don't forget to look around. The world is full of diversity!

RISK TAKER (red token): YYou enjoy new experiences, you value enterprise and you like to seek excitement. However, you can become bored easily. You like to initiate changes and can go all the way whether up or down. You may believe you have everything under control but others might see you as a threat and give you negative feedback you won't easily accept. You are likely to do or say things you might regret later. Don't push yourself too much or too far, everybody has their limits!

If you are not happy with the test result or you believe this result doesn't represent you well, we can give you one more chance to redo the test before you become an official **Ydentity™** member of the Ycommunity. However, we stress the fact that **Ydentity™** works by assessing your brain functions more than your personal and social image so there could be a discrepancy between your view of yourself and the test result. You may take a few minutes of reflection before making this decision.

Activation of Free Trial

Now you are a **Ydentity™** member you can try **Ydentity™** free for one month. During this time, you will have limited access to services provided by the Ycommunity. After your free trial you will become eligible to purchase a full membership program which will give you full access to the Ycommunity network, services, bonuses and incentives.

The Ycommunity is a decentralised peer-to-peer organisation managed by its members. Members are expected to be compliant with the rules of the Ycommunity and are incentivised to introduce compliant companies and partners who are willing to accept **Ydentity™** as a valid ID. The most active members of the Ycommunity will become recognised as experts and receive additional bonuses. Selected experts will become eligible to take on the role of Watchdog and review the actions and activities that take place within the Ycommunity and report cases of misconduct to our Ombudsman where necessary. Watchdogs will receive additional bonuses for their efforts.

The Ydentity™ Incentive and Bonus Program

Members, Experts and Watchdogs who introduce new members, compliant partners and businesses will receive one YDY bonus token for every 100 new members who become a full member of the Ycommunity.

Ycommunity Experts and Watchdogs will receive 100 YDY bonus tokens per month. Watchdogs will receive an additional 300 YDY bonus tokens for reporting cases of misconduct which are found by the Ombudsman to be non-compliant with the Ycommunity's Code of Ethics.

There will be no more than 1000 Experts and 50 Watchdogs worldwide.