GENUINO

WHITEPAPER

"A protocol for decentralised certification of supply blockchain of the future"

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1. Executive summary

In a world of post-truth and unsubstantiated media, consumers are looking for brands to court them with transparency, simplicity and evidence. You already know that in 2017, the default setting has been: 'why can't I know everything about this government body/institution/brand?' Billions, yes billions, of people worldwide expect to find out pretty much anything they want to know, often instantly. And that includes anything about you. In a recent survey of over 10,000 consumers from around the world, 78% of consumers said it is 'somewhat or very important for a company to be transparent.' And 70% said that 'these days I make it a point to know more about the companies I buy from' (Havas, February 2016) [1]. With consumers more able to question and query the actions of brands, radical transparency will be the watchword for 2018 [2]. Consumers do not want any more to blindly trust what a brand or a trademark state. They want to be able to verify for themselves, understand the nuances, gather evidence of a brand/product/service trustworthiness. At Genuino, this is our objective. Strong advancement is already starting to take place thanks to the rise of blockchain technology around transparency of the supply chain and traceability processes. From now onwards, consumers will soon get used to be able to track all the supply chain processes of a given product or service they are enjoying. But with Genuino, we believe this is only part of the problem that is getting solved. Not only do we want to bring a transparent and verifiable supply chain traceability, but we aim at enabling a trustworthy data certification across the links of this chain. With Genuino, consumers will not only buy a brand out of a self-declared claim or printed trademark, they will actually be able to factually view and control the steps of the certification which is being claimed, the sources of the statement of the brand/service/product. Through such Genuino certification process, we aim at securing traceability and authenticity of the brands/products/services entering in the Genuino ecosystem. Combining high-tech sensors, IOTA protocol and smart contracts to

record the entire history of product excellences, Genuino's mission is therefore to help brands to show they can be relied upon as trustworthy and assuring consumers a future of ever more reliable, useful, instantly accessible information, providing them with transparency about how brand/products/processes are really following claimed certifications and/or trademarks. When buying a Genuino-certified product, you can control how it is compliant with the certification it is claiming.

Genuino's model is to set verifiable attributes, which will be customizable depending on the use cases, that will define the certification criteria aimed to be reached in the verification process. As a result, Genuino's model encompasses a variable gradation of certification trustworthiness:

- Genuino certification of centralized existing certifications such as GS1, ISO, BIO. In that sense, Genuino will enable brands following these trademarks to provide transparent, trustworthy and reliable control points of the trademark requirements they are following.
- Genuino certification of brand self-declared certifications (aka know-how). By such brands will be able to define their parameters rendering/proving the authenticity of their products. This is especially powerful to fight anti-counterfeiting in order to ensure customers' trust and safety.
- Genuino decentralized certification (also named the Genuino trademarks): in order to truly respond to markets' trends, Genuino trademarks will be enabled enabling the network to define and assess the parameters upon which a claim or certification can be ensured.

Eventually, a mix and match of the above 3 main gradations will be possible to balance all parties interest in finding the right balance between authenticity, safety, trust and innovation. Companies are now entering a new era of transparency in which demand for

product provenance will continually grow, and Genuino intends to be at the forefront of driving this agenda forward, futureproofing the modern supply blockchain. The ICO is the ideal instrument to accelerate this process by developing the Genuino platform as well as tokenizing Genuino's ecosystem while accelerating its development plans.

2. A token model for a virtuous incentivized system

Information is a key element for supply chain since a valuable and exact information is important to strengthen and improve loyalty among consumers and to build trust towards suppliers in order to enhance and facilitate the operational practice of the company. In particular, according to "Label Insight's 2016 Transparency ROI Study", around 70% of consumers "would be willing to pay more for a product that offers complete transparency in all attributes", and 40% declare to consider switching to a new brand for full product transparency [3]. Radical transparency ultimately requires the involvement of the entire supply chain. But a chain is as good as its weakest link! For the chain to be trustworthy we need to ensure that the incentive of declaring, transferring, enabling transparent information is financially interesting for the various nodes of the chain, from its strongest to its weakest. This will be ensured through the Genuino token (GENU). Our smart contract protocol will incentivize the different nodes of the supply chain transferring reliable information with tokens that will grow in value. From the suppliers of suppliers to the end consumers (who can actively take part in the Genuino trademarks), all the nodes of the chain will be incentivised to leverage trustworthy information. The transparency and the authenticity of the information will enhance the value of the players' products so that Genuino platform will make this added value tangible with the Genuino token (GENU), that is distributed along the supply chain players, as a reward for the authenticity and quality of the data shared. To achieve this goal, Genuino proposes a concrete solution with an implementation of blockchain

technology to shape a transparent and traceable supply chain network, built with authentic and quality data tracked with IoT sensor systems, which can track provenance, quality and authenticity of an asset through the complex supply chain in real time, at the same time, provides unprecedented visibility and confidentiality, integrating traditional enterprise resource planning system.

3. Problem statement

As stated before, in order to meet customers' transparency needs, companies are focusing their efforts on the following aspects:

• Product quality that is seen as the key driver that customers consider for the product choice, as indicated in the 2016 Findomestic Observatory that reported that quality is key for 61% of respondents [4];

• Product certification since customers stated that they are more likely to buy a product that carries the logo of a certification they recognize and understand [5] and to recommend the certificated product [6]. Additionally, certifications are not only a manner for the customer to trust the product they are purchasing but also a way to reduce environmental issues and to improve production among suppliers [7];

• Traceability of every step of the product's journey and in the transparency related to the customer communication. Customers want clear information on the product origin and sourcing and request "clear and accurate" labelling [8];

• Sustainability in terms of the adoption of sustainable practices during all the phases of the supply chain. According to a Eurispes research, 70% of respondents would

be willing to pay a premium price to purchase products prom sustainable companies while 64% said they boycott not sustainable companies and 45% generates a negative word-of-mouth to friends and relatives for products made by not-sustainable companies [9];

• Anti-counterfeiting since "the amount of total counterfeiting globally has reached to 1.2 Trillion USD" [10] and is projected to increase by 3% a year worldwide as an effect of globalization [11].

Related to the need to increase quality in production and distribution and to reduce risks, it has to be said that nowadays companies have to deal potentially with several stages and geographical locations. This situation represents a problem since it is necessary to track events happening in a supply chain and to obtain and to provide information since losses and barriers occur in every step of the supply chain [12].

As an example, data losses may result in counterfeiting issues. As a matter of fact, counterfeit products may harm consumers' health since they may not have been produced according to the safety standards that are required for genuine products and may result in significant losses for the firm in terms of:

• Lost sales and revenue;
• Lost opportunity to increase market share in new and established markets;
• Reputational damage from association with counterfeit goods [13].

Due to the above-mentioned reasons, companies are currently seeking a certified and transparent way to both ensure consumers' trust and to guarantee the quality of the products they make in order to increase sales and revenues and to gain market share.

Traceability and transparency is one of the most problematic issues in modern supply chain. Thus, tracking the provenance of goods on the blockchain reduces risk and increases quality in production and distribution. However, there are some critical problems following:

• Origin information is not immutable because of centralized data system;
• The provenance of product is not visible and traceable through supply chain because of the cost and complexity;
• Mistrust between organizations, including fear that information might be passed on to a competitor has stopped organizations from sharing data;
• There is not secure system to share and pass origin information across supply chain;
• Integration with existing ERP system and information platform is missing [14].

Genuino address these problems by providing a solution to the actors in the supply chain, who will obtain an incentive and clear profit, represented by the Genuino token (GENU). They will have motivation and share authentic and quality information data implementing the blockchain technology without relying on supplier's commitment only and ensuring data's accuracy and integrity. Genuino can provide unprecedented visibility into where things are in real time certifying the product, but also its traceability, showing where things have been before. At the same time, confidentiality and interoperability are ensured to work in the complex business world.

4. Our solution: Genuino World

Powered by Iota technology, Ethereum smart contracts, and integrated IoT devices, Genuino envisions a certification open source ecosystem, determined by reliable recorded information to secure product quality, product certification, traceability,

sustainability and anti-counterfeiting of product excellences. The Genuino solution is based on two driving values: quality and authenticity of the information integrated in the network. The Genuino ecosystem is built on the truthfulness of the information that is confirmed by the network itself. The authenticity of the information is verified through specific parameters defined by the Genuino network. The adherence to parameters, if verified and approved by the suppliers, proves the authenticity of the information provided. The solution refers to an open-source platform that companies can join in order to trace the manufacturing, the origin, and the complete history of finished and semi-finished products. In addition, any player can enter the platform or switch to the premium option that, through sensor technology and the Internet of Things coupled with the capabilities of blockchain technology, smart contracts, dApps and a committee constituted of qualified members, enables the players to obtain the Genuino certification based on defined parameters, identified by the ecosystem. Through the network, participants can be sure of the origin and the history of the materials they use to make the final products since the solution guarantees the full visibility and certification of the supply chain. Consequently, the network enables the complete transparency of the products and the possibility to enhance them through providing the Genuino certification that is the first decentralized one. The Genuino model is based on a rewarding mechanism that works through the application of tokens. Tokens are used to reward the suppliers that belong to a specific supply chain in order to incentivize the suppliers to provide correct and transparent information (even through IoT devices). This incentivizing-rewarding mechanism enables the complete visibility of the supply chain and makes transparency, authenticity and scalability the advantages of the solution. The information provided is authentic towards the product maker, the other suppliers and the final customers who can be involved in the validation of the accuracy of the information they access and in the proposition of new parameters to be validated from the network.

5. The Genuino protocol

Genuino's protocol enables companies to increase the transparency of their supply chain and to certify the authenticity of the information provided along the supply chain. Our solution considers the information as the key driver to deliver a more valuable product obtained also through transparency and authenticity of the information itself.
Genuino provides a solution based on an open-source platform and available in either free or premium option:

- Genuino's free option allows companies to access the platform freely to trace their supply chain. The information provided according to the usage of the platform is self-certified and recorded on the blockchain, so that companies can benefit of the possibility to trace every step of the the supply chain. The whole process will be free thanks to the feeless transactions system and will make the tracking and verification of raw materials, semi-finished and productive processes possible. A "committee" certifies the information and verifies the authenticity of the information on the blockchain.

Our free option includes:

1. A platform interfacing with Tangle, IOTA's distributed ledger, to connect the actors along the supply chain through safe and decentralised data storage.

2. A platform access dashboard to: manage information, allow an active interaction with the network and supply chain actors, information reception and remuneration.

3. A marketplace to sell your product and other services to each one's customers

- Genuino's premium option allows the companies to access the platform and to trace the supply chain but, in this case, this option also allows companies to integrate their supply chain through the usage of IoT devices that can be used by the committee to provide more transparent and more authentic information, earning the Genuino authenticity trademark.

Our premium option includes:

1. The Smart contracts based on Ethereum blockchain will award the product with the Genuino authenticity trademark, obtained through the Smart Contract controls on product genuineness. This will be possible because of IoT systems collected datas on Tangle.

2. The opportunity to define quality parameters through a shared voting process of the ecosystem based on Smart Contract, which must be met to apply Genuino's certification and as well as verified by the Smart Contract itself.

3. A token – Genuino token (GENU), that will reward the transparency of ecosystem members and the authenticity and quality of the information data shared along the supply chain and will meanwhile let consumers be part of the verification process of the chain.

4. A log-in dashboard to enter the platform to: buy Genuino token (GENU), access to information, actively participate to the network, link participants of the supply chain, receive information and its relative remuneration.

5. A decentralized, IOTA based marketplace to buy/sell Genuino's certified products and services;

6. A suite of services to improve the supply chain assurance process, therefore the quality and authenticity of the process of data information towards the consumer.

The Genuino solution expects the participation of the following actors:

- Genuino: issues the Genuino tokens (GENU) that will be sold on the cryptocurrency market and sells the utilization of the premium platform to the companies;
- The crowd: participates in the ICO by buying the Genuino tokens (GENU) issued by Genuino. Once purchased, the tokens can also be sold on the cryptocurrency market;
- The companies: they use the platform in order to obtain more transparent information throughout the supply chain;
- The suppliers of the company: they give information to the companies in exchange of tokens that can sell on the cryptocurrency market;
- The Committee (laboratory analysis testing): verifies the truthfulness, even leveraging IoT devices, of the information provided by the suppliers of the companies that choose to use the premium option of the platform;
- The final customers: they purchase the final product and can view the complete history of the product they buy by using a specific app. They can participate to the information validation and obtain tokens to sell on the cryptocurrency market or to use to obtain additional services.

6. A tokenized ecosystem

The Genuino solution enables companies and consumers to obtain verified and transparent information according to the incentivizing-rewarding model explained as follows. Genuino issues Genuino tokens (GENU) that are payable through fiat money or cryptocurrencies and that, once purchased, can be sold in the cryptomarket. Genuino is

the owner of the platform, defines the parameters that companies need to be compliant with in order to verify the truthfulness of the information provided by those who use the premium option of the platform. These parameters are then verified by brand owners, as well as brand owners, consumers and other participants of the supply chain can propose new qualitative and quantitative parameters to add. Companies access the open-source platform freely and involve their suppliers to use the platform and to provide correct information about the materials they supply through an incentivizing model. According to the model, the company that uses the platform buys Genuino tokens (GENU) from the market (even through the platform itself) and uses the Genuino tokens (GENU) to remunerate its suppliers so that the more authentic are the information provided from the suppliers, the more Genuino tokens (GENU) suppliers receive. If the company uses the free option, each transaction is completely free. On the other hand (the company uses the premium option), a 5% transaction fee is applied to the total amount of transactions necessary to earn the Genuino trademark. Suppliers receive Genuino tokens (GENU) based on the truthfulness of the information (self-certified in the free model and certified by the committee or IoT devices in the premium one) and can sell them in the cryptomarket. On the other hand, final customers have access to all the information related to the product they buy and that have been provided by the suppliers through the platform. Final customers access the information via app through the QR code placed on the product or website, so that they can visualize the entire supply chain, verify the authenticity of the information, and provide insight about the authenticity of the information in case suppliers provided inaccurate one. They can also be involved in the creation of enhancing parameters that can be used to expand the type of information that companies need to be compliant with by providing insight about information they would like to know. The model enables Genuino to give Genuino tokens (GENU) to final customers as cashback so that even customers can participate in the ecosystem and sell tokens in the cryptomarket. Customers can also use the Genuino

tokens (GENU) they receive to buy products via app/web, providing the company with substantial profiling information, and can be awarded throughout special offerings or services designed for them.

7. Genuino technology

The implementation of the project will be based on the application of IOTA and Ethereum technologies. Ethereum will manage the smart contracts and the authenticity parameters attributed to products by the net, while IOTA will be used for data storage. Genuino' s end-to-end integrated solution includes open software and open hardware, protocol layer and developer tools.

Genuino's main tech features are the following:

7.1   Open Source

7.2   Storage on public chain

7.3   Interoperability

7.4   Proof-of-authenticity with native IoT support

7.5   Genuino quality parameters

7.6   Unique product identification

7.7   Proof of ownership

7.1 Open Source

Focusing on open source is a common point of every rising project nowadays. The advantages are several, such as efficiency, reliability, solidity, resiliency to virus, loyalty promotion, the active role of users, transparency of data treatment, producer's independence, customization possibility and, of course, the economical aspect, key point

of every new business. Open source fights monopolies, creates concurrency and embraces the same causes that cryptocurrencies world embraced from its birth, when Satoshi Nakamoto proposed Bitcoin as an open source system. Genuino embraces these causes and aims to develop open source and open hardware software systems, to realize an ecosystem which will have as main focuses the product's quality, data's authenticity and community's consciousness. Genuino is based on the creation of a consensus mechanism, on the result of the platform usage and on processes, as long as they are verifiable.

7.2 Storage on chain

With Genuino, data's authenticity is first of all described from its feature of being public, unforgeable and accessible. This peculiarity can be reached through the fact that data is written on a decentralized distributed ledger. We are not talking about the well-known Blockchain, but Tangle; a DAG (Direct Acyclic Graph), distributed ledger technology which is the bedrock of IOTA project. Thanks to its features of feeless transactions, scalable structure and IoT integration, IOTA protocol is the perfect tool to make this target reliable.

7.2.1 Node control features

Companies will internally adopt IOTA's nodes to improve performances, which will be up to 1000 transactions per second. Leveraging on nodes will give warranties to the ecosystem since the cost of transactions is fixed, thanks to collaboration instead of competition, assuring network reliability. Comparing to traditionally blockchain nodes, an IOTA node could be hosted on machines as a Raspberry with low entry costs.

7.2.2 General features of the technology

Absence of competition between transactions will simplify the events synchronization, but more important the fact to be developed specifically for IoT interaction. Saving datas on a public distributed ledger is only possible if data is inserted inside transactions. The mechanism works by fragmenting the data that have to be written on distributed ledger into pieces exploiting the fundamentals of BitTorrent protocol, defragmenting the data again, when necessary. This operation can occur, thanks to IOTA, in a bundle of transactions; in other words, several transactions connected to each other which will create a node, linked to a Tangle, called TIP. The Storage on chain concept is definitely different from many other projects foreseeing the interface of a private blockchain (eg Hyperledger) which will write on a private database. In this case data is public and accessible.

7.3 Interoperability

Before getting to the Proof of authenticity concept, it's important to introduce the interchain concept. Interoperability has been described as an intermediate level which allows interoperability between two or more blockchains. The concept of multichain platform is based on a possible interoperability between several distributed ledgers through an intermediate layer, able to communicate with both systems. Genuino aims to become a multichain platform, providing interoperability. The need of being a multichain platform comes from actual chains such as EPCIS of GS1, or classic data flow from traditionals ERP like Sap, Dynamics or Odoo; they are centralized systems in charge of following products' traceability. Connecting with these systems, pillars of the majority of commercial exchanges and key players in terms of traceability of supply chain and production processes, is now possible. Transferring data on a distributed system will

validate them and make them unforgeable, with a consequent increase of their value and reliability. Third party's services will so be exploited to catch different technological offers.

7.4 Proof-of-authenticity with native IoT support

We will now introduce the Proof of Authenticity concept including the linchpin element: the application of innovative IoT systems. The Smart Contract concept was born to decentralize the figure which was managing the monetary fund, for its partition and other related operations, in an unforgeable and public way. An example of these implementations are the smart contracts used for donations management, refunds, during crowdfunding campaigns. In this specific situation, the investor is free to read the smart contract and be aware of the conditions who will define the employment of his investment. How to apply this idea into a system focused on publicity and unforgeability of production-related product information? The idea is to keep excluding from corruptible roles the involved human component. This kind of objective can be reached by an IoT system development; it will exploit several devices making this job.

1

Certain identification of the object: without IoT the information could be artificially authentic. The device will have to produce a specific mark that will never be recreated, comparable to biometrics technology.

2 As the information will be provided from an identified object, it will be valid and certain as digital signature technique.

3 Absence of forgery critical points. IoT sensors equipped of certain identification devices

will directly create the data and will identify any counterfeiting attempt, thanks to their integrated security systems. The data will automatically be inserted into the tangle.

These results can be reached through Crypto chip with FIPS certification.

Actual IoT systems are run into performing telecommunications systems like LoraWan, LTE for large scale or BLE for small scale application. They work with special devices, IoT devices communicate with high-performance telecommunications systems such as LoraWan, Wide Range LTE, or BLE for short-range applications and are optimized for battery life, particularly by reducing communications to a minimum (a few bytes) by elevating high-performance sensors. Within these sensors can be installed software the code needed to publish information directly on a Distributed Ledger, such as with Puck-js.

We are also going to work with open hardware sensors, which can interact with IOTA and can run high performances with reduced energy consumption. Matching these ideas with ultimate technologies can drive towards data's decentralization and authenticity, this is the reason why we talk about Proof of Authenticity concept. Due to clear problems related to the process, human contribution cannot be cancelled. This work will minimize human intervention and decentralize data collection systems (as per above).

In addition, we are going to implement and partner up with an IoT solution that can handle any type of nucleic acid amplification techniques, enabling users and partners to test genomic sequences in a wide array of applications. Actual usage of this technology includes the identification of pathogens in a biological sample (viruses, bacteria, fungi can be detected in plant, animal or human samples), the certification of the exact species in a sample, environmental testing, genomic identification and pharmacogenomics just to mention a few.

7.5 Genuino quality parameters

Introducing the GACE - Genuino's Adactive Criterias Engine

The continuous authentic information collection during supply chain internal process unveils a new scenario into data analysis. Let's start from Proof of Authenticity concept again. In Genuino, the proof of a product's genuinity comes from several data collection during the whole process, until the product reaches consumer's hands. These parameters are given from the collection of existing rules and laws, quality traits and every enhancing aspect of the process. Nowadays all this information is stocked in a "black box" and the consumer should believe to certifications and producer, who declares to be respectful of those parameters during different audit. To be part of Genuino, a product will have to define its quality parameters. The minimal requirement will be the same defined by category law in every country and will be a default requirement in the parameters setting. Other features will define a product specificity. Let's introduce GACE: Genuino's Adactive Criterias Engine, GACE is an abstraction level of Genuine multichains (we can understand it as a server daemon) that analyzes all the process parameters in the tangle and studies its effectiveness. All participants to Genuino network will have the possibility to ask for the modification or the fork of a supply chain. Every modification request will have to be validated into data analysed from GACE or find an evidence that GACE did not find but is inside the chain of Genuino. If a network member wants to delete or modify a compulsory aspect he will need to attend a Criteria Challenge to obtain a sufficient number of data to support his theory. If the theory is confirmed, the promoter will get a reward and a new parameter will take place in the network, or an existing one will be modified. A new scenario will now take place, where quality will not be dumbed down because of a lack of feedbacks in the chain. The disintermediation given from a blockchain network will give the possibility to collect suggestions, oppositions or requests at any level and will avoid all the human

problems like power centralization and focus thinking. Evidence is the key for adoption. GACE will promote on the platform customised notifications, based on user's activity (producers, transformers or final consumers), and on availability of new criteria for a single product/category or new Criteria challenges. Criteria identified from GACE, potential new supply chains or modifications, will be immediately exploitable as already validated during processes. The notification of Criteria Challenge will instead allow every member to contribute to provide information supporting the theory and become cofounders of the new supply chain. This is a revolution that will allow everybody to modify the market through an honest proactivity, unforgeable and cooperative. "GACE" can also emphasize the ethical behavior of the large-scale retail trade thanks to the evidence of the quality of their suppliers and, therefore, on the contrary, highlight the unethical behavior of operators who maximize profit at the expense of customers and suppliers that can't provide similar level of quality.

7.6 Unique product identification

The theme of unique identification has already been afforded and solved since the 80's: crypto chips used in sim cards of mobile phones are able to provide a unique data, making the identification of each hosting single device possible. The real innovation we will introduce with Genuino consist of removing the centralized platform that identifies the sim and authorize it to use network's services. Genuino will permit the automated validation of data produced from sensors, thanks to identification chips that sign data with a private key (securely stored in the chip), signature verifiable with the public key of stored on the tangle.

7.6.1 Identity of things based on IOTA tangle.

Basically, a Crypto SMART CARD is the same device used in chip (or wireless) credit cards and more simply the mobile phone SIM used to securely identify a operator's customer. These are the capability of a common Crypto Smart Card:

- Main features:

    - Chip certification: CC EAL5+

    - ISO Certification: CC EAL4+

    - FIPS 140-2 level 3

    - ISO 7816 1-4,8,9 standard, I/O speed up to 31 cycle/etu

    - Communication protocol: T=0, T=1, contactless RFID or NFC

- Technical specification:

    - EEPROM 72 KB

    - Cryptographic algorithms: AES-128/192/256bits, DES, 3DES, RSA

    - Hash algorithm: SHA1, SHA-2, SHA-224, SHA-256, SHA384, SHA512

    - RSA key lenght: 1024 and 2048 bits

    - Elliptic Curve Diffie-Helman: 160/192/224/256/384/521 bits

    - Algorithm Elliptic Curve DSA GFP: 160/192/224/256/384/521 bits

    - Random generator: FIPS 186-2

    - Secure Messaging: yes

    - Netlink: HPC and PDC

- Cycles of read/write: 500.000

- Supply: 1.8 ÷ 5.5V

- Unique serial number

In more simple words, this device can store 72 KB of data in a secure memory and can be programmed to execute a sequence of operations including cryptographic functions. It is almost impossible to access the secure memory and clone a Crypto SMART CARD. In addition to the physical Smart Card, a virtual Crypto Smart card can be defined using the security feature provided by Android, IOS, Windows or the Linux based major OS.

How to use a SMART CARD

In theory being able to execute the SHA-256 hash function (currently used by IOTA) a Crypto SMART CARD could be able to sign a bundle hash creating a valid transaction, but I'm sure this operation will be unreliable: electric contacts are not designed to transfer large amount of data at high speed and executing many time (up to 27) the hash function can take time. These devices are designed to work rarely and for a few seconds, as it is normal for a credit card or a mobile phone boot. Anyway, we can store a large amount of data in the 72 Kbyte secure memory accessible only with a high level secure procedure ad use the SMART CARD CPU to encrypt a string of data.

Smart card initialization

Control Center is an application managed by the tracking system owner that generate a couple of keys (private and public) for each Crypto Smart Card. The Control Center owns a MAM channel where it publishes a new message, each time it initializes a Smart Card

Control Center use a SEED to generate an SMART CARD unique ID so the SMART CARD initialization message includes:

- SMART CARD unique ID: it is an IOTA valid address produced from a SEED using the SMART CARD internal progressive ID as Key ID.
- SMART CARD Public KEY: RSA 1024 key used to decrypt data provided by the SMART CARD
- Associated tag/sensing device spec: a set of data deSmart Cardribing the nature and the specification of the SMART CARD associated device.

In publishing this message on the MAM channel, the Control Center inform every listening clients that one new SMART CARD has been authorized to publish data. The Control Center MAM channel can be public or private according the specific application requirement.

Publishing data

We have two cases:
- publishing data from an trust less device
- publishing data from a trusted device

Publishing data from an trustless device

Supposing to have a device able to read the smart card and to execute a simple Script to create a zero IOTA transaction publishing data. Data comes from the Smart Card itself and from other sensing components (temperature, vibration, light, etc.)

This is the procedure the reader will execute:

- The reader collects the data payload.
- Add the geographic position to the payload
- Create the data payload hash

- Ask the Crypto SMART CARD to encrypt the payload hash (this procedure is called "sign the payload")
- Read the Crypto SMART CARD unique ID (IOTA address)
- Prepare a IOTA bundle with a number of meta transactions sufficient to store all the payload in the unused signature fields. Every transaction uses the Smart Card unique ID as Address
- Execute the POW or use an IOTA node that will execute the POW and then publish the transaction to the network

Data published by this procedure (including the geographic position) are not trustable but it is sure that the reader was able to interact with that specific Crypto Smart Card that provide a valid payload signature. A client tool listening the Smart Card's address is advised by the IOTA gossip protocol that a new transaction is available on the address. Reading the Control Center MAM channel he can find the SMART CARD Public Key and use it to verify the payload hash signed by the Smart Card. This procedure allows to track Tags that can't be cloned.

Publishing data from a trusted device

Supposing to have a device very similar to the previously described able to read data from the environment (including tags). This device is considered trusted because it owns a Crypto Smart Card initialized by the Control Center with the same procedure previously described. In addition, the device is able to identify tampering attempts: in sensing an attempt to move, open or tamper, the device will try to publish an alert message and then lock his SMART CARD with a lock command.

There are two cases:

- If the device is an environmental sensor it will execute the procedure described before for the trustless device. The client application will be able to evaluate data confidence level identifying the reader as trustable device checking the signature with the public Key stored on the Control Center MAM channel.
- If the device is a tag reader it will execute the procedure described before for the trust less device using the tag's unique id/address. It will add in the payload his own Unique ID to allow the client application to evaluate data confidence level identifying the reader as trustable device.

This procedure works equally even in the case of a virtual Smart Card, created by an app running on a smartphone: it becomes a trusted device.

What if a tag or a trusted device is stolen?

Of course, we can't avoid a trust less device to read a stolen tag and publish data, but we can declare that tag as stolen and revoke his authorization to sign data. Once informed that a tag has been stolen the Control Center can simply publish a new initialization message for the stolen tag ID. In the new message the public key is set to null and the tag status is set to the appropriate value in accordance with the specific application (stolen, lost, disabled, etc.). The tag can be used to produce data, but client applications reading the messages are aware that the data have to be ignored. The same operation is done in case of a trusted device is stolen or tampered.

IOT device Integration

The ISO 7816 standard describes the physical interface used by the smart card to interact with the external world. Basically, it is a serial interface, so any microcontroller is able to communicate with the smart card. The next step of this project will produce a demonstrative device able to create authenticated and authorized data.

The system designed can be described as a "Distributed Authoritative Directory of IoT devices". It allows an organization to distribute micro devices. Publishing data on specific IOTA address allow malicious entity to publish false data, but using the reliability of the crypto smart card we can easily identify valid messages among all. In the future, the Crypto Smart Card will be probably replaced by Jinn feature and the Control Center can become a distributed component running as a Qubic.

7.7 Proof of ownership

The SIM format (the one used in mobile phones) is only one of the possible formats available for secure identification devices. Interesting is the possibility of inserting a cryptochip directly into a high value product or, in any case, of associating it during the sale/transfer phase to the final customer. In this way, it is possible to record the logical association between the object identifier (security chip) and the owner identifier in the tangle. This is an evidence of the possible interaction between Genuino and other platforms/chains that provide services for the secure identification of human beings. The verification of the property can be achieved by integrating a cryptochip with a wireless interface into the product or simply with a wireless card (nfc, rfid or similar) that logically represents the product (for example, paintings, precious or something that should not be altered). Owning a product without your digital avatar is proof of illegal possession of the product. The dimensions of the cryptochip are extremely limited (½ mm*2mm) and it is therefore possible to integrate any device, product or surface on which it is possible to create an electromagnetic loop capable of generating current to power it. For example, a cryptochip can be placed in a glass container (e.g. medicines).

8. Our positioning
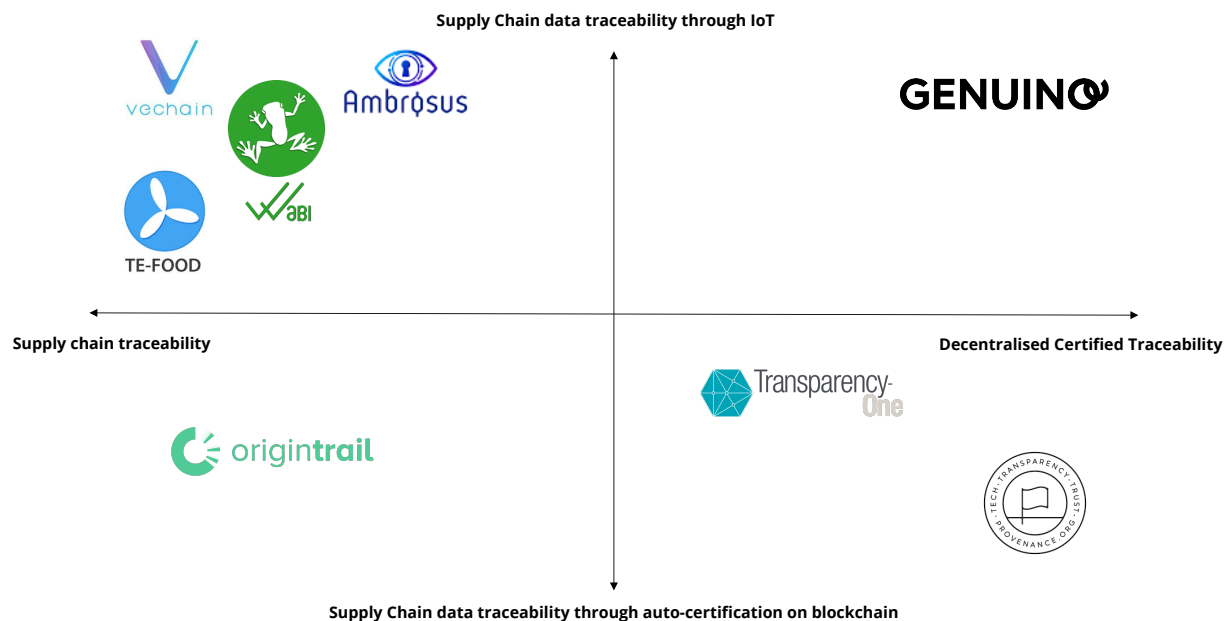
8.1 Competitors comparison chart

	Genuino	Ambrosus	OriginTrail	Provenance	Te-Food	Vechain	T-One	Wabi
Information data rewarded	✓	✓	✓	-	✓	✓	-	✓
Decentralized certification trademark	✓	-	-	-	-	-	-	-
Supply chain traceability through IoT	✓	✓	-	-	✓	✓	-	✓

	Genuino	Ambrosus	OriginTrail	Provenance	Te-Food	Vechain	T-One	Wabi
Direct and independent connection between IoT and blockchain system	✓	-	-	-	-	-	-	-
Focusing on Made-In of worldwide excellence products	✓	-	-	-	-	-	-	-
Complete (All supply chain steps monitored) traceability	✓	-	-	-	-	-	-	-
Working on different sectors	✓	✓	-	✓	-	✓	✓	✓
Interoperability platform system	✓	✓	✓	✓	✓	✓	✓	✓
Ecosystem with consumer participation	✓	-	-	-	-	-	-	-
Blockchain platform with no registration fees	✓	-	-	✓	-	-	✓	-

9. Industry application case studies

Radical transparency involves companies publicly sharing significant amounts of information and data on their processes, products and supply chains to enable consumers to make more informed evidence-based purchasing decisions. In order to facilitate companies to adopt a more transparent approach to disclosure, especially on a voluntary basis, and find easier to engage and nurture more positive relationship with consumers, Genuino's solution is studied to be also scalable and introduced in steps as following:

Step 1 - Signing up to free version – scaling up actual ERP system data certification to self-certificated data on public, unforgeable and accessible self-certification printed on distributed ledger technology;

Step 2 - Introducing the unique code identification;

Step 3 – Implementing the QR code on product to display and present this data in a way that engage the consumer;

Step 4 – Inserting the identity anti-counterfeiting tag;

Step 5 - Switching to premium version and introducing the proof-of-authenticity concept through the committee laboratory analysis;

Step 6 – Releasing the full potential of the platform with certified sensing and IoT and GACE.

Genuino is already actively working with industry partners to study potential use of the protocol. At Genuino we love to be pragmatic and the below cases represent scenarios and technology already discussed and in our possession. We are testing different solutions with the following industry partners:

9.1 Fashion Industry

IoT and blockchain technologies, based on tagging and DNA analysis, as well as web-based monitoring systems, or sensors can be used in fashion industry to help control of the distribution chain, track parallel imports and second hands goods, provide real time evidence of continue use of a mark, maintain indisputable records of the timing and changes made during the design process and combat counterfeiting.

Identification of an original can be carried out at any time and at any location with the help of an integrated IoT and blockchain system. For example, it's possible to check whether the company actually has a plant in a specific location, if the product could plausibly be at the specified location (when, each transport step has been saved). The appearance of the same product at the same time on opposite ends of the earth would be an indication of a counterfeit. For retailers and buyers, the history of a good tracked in the supply chain is equivalent to a certificate. For retail customers, this means a further increase in value.

Giving a concrete example of the steps, first the sensor is registered in the supply chain, subsequently, it is handed over to the manufacturer of a garment and integrated during the manufacturing of the products. After production, the goods are packaged and fed into the logistics chain. The products are transported to the port, for example, and shipped by a shipping company. From the destination port, the goods are delivered to the wholesaler. The wholesaler distributes the textiles to retailers, who sell the clothing to the end consumer. All of these steps are recorded via sensors and are stored in the blockchain.

9.2 Healthcare Industry

When the drug supply chain is insufficient or too complex to surveil, one of the worst

cases could be counterfeit drugs. It is difficult to measure the economic loss due to counterfeit drugs. The world does not even have accurate basic statistics, such as the number of counterfeit drugs. However, for the past few years, public opinion and experts have passively accepted the argument that 10% of medicines around the world could be counterfeit. There are some suggestions to prevent counterfeit drugs. Some include: "improving management of supply chain", "improving controls of secondary drug markets", and "improving the use of technology to track and trace counterfeiting drugs". From the procurement of drug ingredients, production, and distribution to the use of drugs, every step of the drug supply chain has an important role in drug safety. Introducing blockchain and IoT technology as a new tools or service platform to manage the drug supply chain could become a solution.

IoT sensor devices leverage blockchain technology to assert data immutability and public accessibility of records, and reduce operational costs in the pharmaceutical supply-chain. The medical industry has many complex and strict environmental control process (for example temperature and humidity) to ensure quality control and regulatory compliance over the transport of medical products. To give a concrete example the sensor devices can monitor the temperature of each parcel during the shipment to fully ensure regulations. All data is after transferred to the blockchain where a smart contract assesses against the product attributes.

9.3 Food Industry

During the last couple of decades, customer confidence in the food industry was heavily destroyed after lots of food safety risk incidents and scandals, such as mad cow disease, genetically modified food, toxic milk power, and trench oil. As a consequence, further increasing consumer concerns over the safety and quality of food have drawn more and

more attentions from academic and industrial areas. In response to growing food safety issues, many IoT technologies, such as RFID and wireless sensor network-based architectures and hardware, are applied to supply chain traceability and visibility. However, there is a very important issue has not been touched is that whether the information shared by food supply chain members in the traceability systems can be trusted. This kind of centralised organisation could become so powerful by possession of this data that could result in information asymmetry between the organisations and the individuals. It can become a vulnerable target for bribery, and if, for example, the administrator can be bribed, valuable information can be tampered with, and then the whole system can not be trusted anymore.

The novel technology that could be the key to these issues is the blockchain, which can remove the reliance on a central entity. Instead of storing data in an opaque network system, with the blockchain, all the information of the food products can be stored in a shared and transparent system for all the members along the supply chain.

Giving a concrete example IoT sensor tag will be registered and integrated with the manufacturing process of the product, all the collected informations will be recorded on blockchain technology. A QR code will be attached to the item packaging and linked to the blockchain record associated product and sensor tag. The QR code tag it will be used then to trace the entire journey of the item to the consumer.

10. Roadmap

Business Roadmap

2017

Q2 - Apr 17

- ✓ Serendipity

Q3-Q4

- ✓ Concept Development

2018

Q1

- ✓ Team scouting
- ✓ First developers meet-up

Q2

- ✓ Concept Sign-Off
- ✓ Whitepaper - First release
- ✓ Genuino.world - First release

Q3 - July

- o Genuino.world - Second release
- o ERC Genuino token (GENU) generation
- o Private pre-sale

Q3 - August

- o Second developers meet-up
- o Genuino Foundation establishment

Q3 - September

- o Genuino Branding Hackathon
- o Genuino.world - Final release
- o Pre-ICO

Q4 - October

- o Third developers meet-up

Q4 - November

- o ICO

Q4 - December

- Token listing

2019

Q1

- Genuino World Brand launch

Q2

- Partnership Expansion
- Genuino LAB kick-off

Q3

- Genuino CSR Campaign

Technical Roadmap

2018

Q1

- ✓ Technology discover

Q2

- ✓ Validation Genuino's protocol
- ✓ Alpha Development

Q3 - July

- Proof-of-Concept Beta Testing – Unique product identification
- Proof-of-Concept launch
- Open Source Beta Development Start

Q3 - September

- Open Source Beta Testing

Q4 - November

- Release Beta Product

- o Premium Version Development Start

Q4 - December

- o Premium Version Testing

2019

Q1

- o Mobile APP - iOS & Android Launch
- o Preemium Version Release
- o Genuino's protocol Launch

Q2

- o IoT Applications Expansion R&D
- o Marketplace Development Start

Q3

- o IoT Applications Expansion First Release

Q4

- o Marketplace Release

2020

Q1

- o Full Infrastructure Network Launch

*Project dates will be updated consistently.

11. Token metrics

Overarching purpose and goal

The Genuino ICO takes place in a best-in-class technological security and regulatory compliant environment. The Genuino token (GENU) is a utility token (granting access to certain Genuino' services, acting as a reward / incentive instrument) with a payment function (deprived from any claims on the issuer) within and limited to the Genuino tokenized ecosystem. The Genuino chain platform implies the creation of a collaborative system that can be adopted by any franchise business model.

Token sale

The following roadmap is envisaged: Private Sale: Q3 2018 ; Public Sale: Q4 2018. The dates might be modified depending on the ICO development. The information will be updated on the website of the ICO. Nonetheless, the public sale will be launched during the last quarter of 2018.

Token allocation*

Token sale – 50%

Marketing – 20%

Legal – 5%

Team/Advisors – 15%

Reserve – 10%

Token details*

- ➢ Token name: Genuino Token

- ➢ Token symbol: GENU

- ➢ Price per token: TBD

- ➢ Total token supply: TBD

- ➢ Soft cap: $5M

- ➢ Hard cap: $35M

*Info will be updated consistently.

The Genuino (GENU) token is based on the decentralized Ethereum market standard smart contract ERC20 token. Formed within the blockchain and subject to automatic execution upon the occurrence of pre-defined criteria and events and subject to certain conditions, GENU tokens are valid indefinitely and are the property of their respective holders.

12. Our vision

In this final chapter, we would like to give you an overlook to future supply blockchain powered by AI and IOTA. The value chain supporting the production of consumer and luxury goods is complex. Inefficiencies can happen along this journey leading to loss of value, quality and competitiveness. Technological progress has guaranteed automation of most of the production phases, but the continuity of the automation level is often interrupted and then resumed in the passage between different operators. In the near future, Genuino will allow these interruptions to be eliminated, sharing the data of the entire supply chain on a single information base, allowing each economic and productive entity to prepare themselves on time for the task that the system will allow them to foresee. The human component can be pre-alerted avoiding overtime peaks. Raw

materials could be ordered to arrive in sync with process requirements, minimising financial exposure due to preventive storage. However, an even higher level can be achieved. The introduction of AI trained to evaluate and optimize the process can be much more efficient than a human expert. AI could process many more parameters than the Genuino system will be able to generate. Depending on the quality of the product at the various stages, AI may charge fees and make payments itself using its own crypto wallet. AI can therefore exploit different suppliers with an ethical and correct attitude allowing them to operate with maximum efficiency, but at the same time rewarding more those who are able to produce higher quality. AI can organise auctions and independently check the correctness of the delivery on the basis of the auction parameters. It can apply penalties to providers who have failed to meet service levels and finally can go so far as to look for more profitable markets for products made by the supply chain. Being at the service of the entire supply chain AI will overturn on all participants the advantage gained. Competition between companies and supply chains can therefore be shifted from the sole objective of minimising costs to greater efficiency in the supply chain, measured as community satisfaction, by putting AI in competition on this parameter.

13. Team and advisors

Team

GABRIELE BERNASCONI – *CEO and Co-founder*

Gabriele attended IED, European Institute of Design in Milan, achieving a Marketing Bachelor in 2008. He spent most of his ten-year careers for Nike, where he held various marketing roles in Western Europe and Middle East markets, translating consumer insights into breakthrough concept ideas with the objective to inspire, enable and serve the consumer. With an authentic passion for innovation and digital tech, Gabriele has been working in the blockchain market since 2016, participating as advisor, brand strategist and investor to various ICO, before founding Genuino with the CEO role in 2017.

LinkedIn profile: https://www.linkedin.com/in/gabrielebernasconi/

ELEONORA MULAS – *CFO and Co-founder*

Eleonora achieved Communication for Institutions and Firms Master degree in Torino and attended a post graduated business course in London. She began her career in Italy, working for financial institutions for the duration of four years, moving then to Intesa San Paolo Bank as Senior Manager Corporate. She joined Emirates Airline in Dubai in 2012 as Manager Business Class Customer Experience where she has worked for six years focusing on designing and improving all processes and stages of customer engagement. She founded Genuino with the CFO role in 2017.

LinkedIn profile: www.linkedin.com/in/eleonora-mulas-0125a851/

STEFANO DELLA VALLE – *Chief Technical Officer*

Stefano studied IT in Milan. His first working experience has been at Borsa Italiana developing their marketplace. In his extensive career, he held key technical roles for British Telecom, outsourcing services for Dell and building a Metropolitan Area Network in the industrial district near Milan. At the moment Stefano is working as Sales Director Italian division for Vidyo, an IT company based in New Jersey, as VP Executive Sales and Marketing Director for an IT service provider company based in Italy and as IoT consultant for ITWAY Group. Stefano is currently Italian IOTA evangelist and advising several projects focused in blockchain. He joined Genuino in 2018 with the role of CTO.

LinkedIn profile: www.linkedin.com/in/stefano-della-valle-1687843/

MAURO PRESICCE – *Chief Operating Officer*

Mauro built his scholastic career with a Business Professional Consulting Bachelor and two experiences abroad at the University of Leiden, in Holland and Varna, in Bulgaria. Mauro worked in Ernst & Young as Senior International Tax Services and now is working as Chief Operating Officer for Alpengate, a Swiss Advisory Boutique that provides legal services for ICO projects. At the moment Mauro is running also his own blockchain community and decided to join Genuino with the role of Chief Operating Officer in 2018.

LinkedIn profile: https://www.linkedin.com/in/mauro-presicce-9a899369/

MARCO BRUNO – *Software Architect*

Marco has built his scholastic career as IT Analyst and by the time he has developed a significant expertise in IT. He worked as Technical Director for a radio, managing the implementation of the audio system GNU/LINUX. He joined Sid in 1996, a software house involved in supply chain management, where he works as analyst and IT developer. He is

also the IT Manager of a coffee fair-trade cooperative called Punto Equo. Marco developed a deep interest in Blockchain technology and that's why he decided to join Genuino with the role of Software Architect in 2018.

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PATRICK JUSIC – *Head of Developers*

Patrick has graduated in Computer and Automation Engineering, also certified Mobile Web Specialist by Google. He worked on projects related to machine learning addressed to human stress analysis and encephalograms classification. He built extended experience as Fullstack developer and DevOps. AI and Blockchain enthusiast at the moment is perfecting his studies in decentralised and distributed system, also actively working on developing a digital exchange. Patrick joined Genuino with the role of Head of Developers in 2018.

LinkedIn profile: www.linkedin.com/in/patrickjusic/

DAVIDE MENINI – *Senior Developer Analyst*

Davide developed his first program on Commodore 64 at the age of 14. He has been following his passion of analysing and developing programs for more than 30 years improving his analysis and problem-solving skills. He joined Bizerba as Analyst Developer Senior in 2006 working for several clients in the supply chain management. In Genuino since 2018 where he works as Senior Developer Analyst.

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MATTEO BRESCIANI – *Full-stack developer*

Full-stack developer in the IT business for more than 15 years, Matteo is specialised in web oriented technologies, working with several professionals to support client's needs in their online activities. In the recent past, he focused his studies and works on the Lead Generation and Blockchain technologies. He joined Genuino in 2018 as full-stack developer.

LinkedIn profile: www.linkedin.com/in/matteobresciani/

ALESSIO COZZOLINO – *Full-stack developer*

Alessio studied as software developer with a specialisation in Intelligent Data Analysis and Business Intelligence and Data Analytics. After finishing his studies Alessio worked for two blockchain projects as full stack developer and then he decided to build his own start up called Snapup with the role of CEO and Infrastructure Architect. He joined Genuino in 2018 with the role of Full-stack Developer.

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JULIEN CHIAVASSA – *Head of Business Development*

Julien has graduated in Engineering Industrial Management from the Politecnico in Madrid. He worked several years as Asia Supply Chain Project Manager for L'Oreal. He founded three different projects in China, first two related to E-Commerce development and his last one on the food sector. Julien has covered also the role of E-Commerce Asia Pacific Director for several years for Clarins. At the moment, he is working for KIKO Milano as Global Digital and E-Commerce Director. Julien is also a Blockchain ICO advisor, and he decided to join Genuino with the role of Head of Business development in 2018.

LinkedIn profile: https://www.linkedin.com/in/julienchiavassa/

DOMINIK BERGER – *Investor relations Manager*

Over the years Dominik has developed a significant entrepreneurial know-how, strong communication skills and the ability to deal with people that made him able to become CEO of the company "My Digital-Marketing Solutions" first, and then CMO of the blockchain project Pecunio Blockchain Investments. Dominik joined Genuino with the role of Investor Relations Manager in 2018.

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MATTEO BORMETTI – *Marketing Director*

Matteo graduated in digital marketing at IED Milano in 2008. He began to work as a digital project manager for Costa Cruises at Young & Rubicam. Then, he started his own startup in the online tourism and he sold it in 2018. In the meanwhile he has been running his own digital agency, imy.it, and starting from middle 2017 he has been working as marketing consultant for various blockchain projects. He joined Genuino as Marketing Director in 2018.

LinkedIn profile: https://www.linkedin.com/in/matteobormetti/

ANTONIO GRECO – *Brand strategist*

Antonio attended IED, European Institute of Design in Milan. He started to build his career as Digital Art Director working in the web, where he has been working for over 15 years. Antonio has been the co-founder of Openmondo, a digital start up focused in travelling and tourism. At the moment he is running his own digital agency called Imy, a design studio providing branding and digital solution for companies, since an year

specialised also in blockchain projects. Antonio joined Genuino with the role of Brand Strategist in 2018.

LinkedIn profile: https://www.linkedin.com/in/antoniomy/

DANIELE POLITINI – *Creative Director*

Daniele is a Graphic Designer / Art Director based in NYC graduated with a Bachelor Degree in Industrial Design at Politecnico of Milan. He developed an extensive experience in Branding and Art Direction on a diverse collection of projects between Milan, London and New York. His work has been internationally recognised with several awards and publications In Europe, Asia and United States. Daniele joined Genuino as Creative Director in 2017.

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GERARDO VOLPONE – *Blockchain Strategist*

Gerardo built his scholastic career at the LUISS University in Business and Financial Management then he worked as Staff Auditor for Deloitte, Core products Specialist for MasterCard and now he is Senior Consultant of the Digital and Innovation Dep. Italian Division in Ernst & Young, where his main role is providing consultancy service for blockchain projects, developing business strategy for start-ups and companies focused on innovative sectors. Gerardo joined Genuino as Blockchain Strategist in 2018.

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MAURIZIO RICCI – *Corporate Social Responsibility Manager*

Maurizio is graduated in Economics and Business for no profit organisations. He has been working since 1997 as Consultant for Foundations, Associations and Cooperatives

and in the Fair-trade sector. He built three Cooperatives, two of them related to the coffe production chain. One of them is called Ethicru and it is involved in exporting the product also in UK and India. By the time Maurizio developed significant experience and competencies also in bio-agricolture and sustainable trade. He joined Genuino as Corporate Social Responsibility Manager in 2018.

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Advisors

DAVID TERUZZI - *Advisor*

David is consultant and full stack developer with 15 year's experience in applied maths based high-tech solutions and services for industries. He developed different AI solutions in music and cinema in collaboration with Cannes Festival, and working as consultant for ViaMichelin optimising graph-theory for path finding. At the moment David is EOS community evangelist in Paris, and he developed an extensive know how working as consultant for different ICO projects based in Paris and London. He advises Genuino since its early stage.

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MARCO BALDI - *Advisor*

Marco is specialised in Electronic Engineering, focusing on coding techniques for communications reliability and security and cryptography. His research has been partly carried out in cooperation with companies and national and international organisations including Siemens Mobile Communications, Telecom Italia, the Italian Space Agency and the European Space Agency. He has collaborated with the European Space Agency in the

activities of the Consultative Committee for Space Data Systems for standardising techniques for space telecommunications. He advises Genuino since its early stage.

LinkedIn profile: https://www.linkedin.com/in/marco-baldi/

CHRISTIAN DEL CAMPO - *Advisor*

Christian started his career as auditor in KPMG in 2008. He then set up a logistics and freight forwarding company based in London, specialized in jewellery and luxury goods, until he became Finance and Operations Director for the Head Office of the same Company in 2012. In 2018 he founded New Market Farm S.pa., a company specialised in blockchain, financial advisory and crypto academic courses, where he works as General Manager. He advises Genuino since its early stage.

LinkedIn profile: https://www.linkedin.com/in/christian-del-campo/

MATTIA SPANGHERO – *Advisor*

Mattia has been a successful trader for 11 years. He started his career in Algebrica S.r.l in 2007 where he learned his way through the main financial markets. In 2018 he founded New Market Farm S.p.a., and became Project Manager of Criptohub, the first and most complete Academy and Advisory Service Provider for Cryptocurrencies. He is now one of the most recognized and requested advisors for main events and ICOs in Italy. He advises Genuino since its early stage.

References

[1]

Global Trends 2017

http://trendwatching.com/quarterly/2017-03/truthful-consumerism/transparency/

[2]

Mintel – Europe consumer trends 2018

http://reports.mintel.com/static/trends/documents/European_Consumer_Trends.pdf

[3]

https://www.prnewswire.com/news-releases/study-nearly-three-fourths-of-consumers-would-pay-more-for-products-that-offer-complete-transparency-300318901.html

[4]

http://www.repubblica.it/economia/2016/11/30/news/findomestic_consumi_sostenibilita_-153134172/?refresh_ce

[5]

Rainforest Alliance, Why Promote Sustainability?, http://www.rainforest-alliance.org/marketing/why

[6]

From sustainable fishers to seafood lovers, Annual Report 2015-16, https://www.msc.org/documents/msc-brochures/annual-report-archive/annual-report-2015-16-english

[7]

Better Cotton Initiative, BCI Story, http://bettercotton.org/about-bci/bci-story/

[8]

http://www.foodsafetynews.com/2016/02/123246/

[9]

http://www.eurispes.eu/content/alimetare-il-consumo-dei-prodotti-doc-e-igp-sfida-la-crisi

[10]

https://www.businesswire.com/news/home/20171222005383/en/Global-Brand-Counterfeiting-Report-2018-Counterfeited-Goods

[11]

https://www.foodmanufacture.co.uk/Article/2017/01/10/Counterfeiting-to-grow-by-3-a-year

[12]

Blockchain enabled Trust & Transparency in supply chains, Hua & Notland, 2016

[13]

http://www.worldtrademarkreview.com/Intelligence/Anti-counterfeiting/2017/Industry-insight/Food-and-beverages-fighting-counterfeits-worldwide

[14]

Blockchain enabled Trust & Transparency in supply chains, Hua & Notland, 2016