K SYSTEMS

BLOCKCHAIN FOR EVOLUTION

The K Systems (KSYS) White Paper

The KSYS ERC20 Token and its distribution, The K Systems dApps and Services

Mickael LEVY, K Systems LTD, 05/06/2018 – version 4.0.9 rev. 4

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1. A Message From Our CEO

Hi!

My name is Mickael LEVY, I am the founder and CEO of K Systems LTD, a small company with great ambitions.

I was born in Nice, France, on the 31st of January 1977. I live in Italy.

My first PC was an IBM XT/286 that my father managed to get as a gift from a customer that was happy with what he had done for him. It was 1988, I was only 11. I work in the IT world, at very high technical levels and around the World, since 1996.

I can administer a Sun Enterprise 10000 (https://en.wikipedia.org/wiki/Sun_Enterprise), I can patch an RJ45 cable with a hammer on top of a mountain, I can build and deploy FUD payloads in about any code, I can install and configure 2 motorized VSAT, 25 wireless access points on board a 79 meters mega yacht (after patching it) all by myself (http://www.superyachts.com/motor-yacht-2572/ss-delphine.htm), I can write CNC programs for high precision aerospace components, I can design those components in Catia V4 and V5, and, really, much more…

My life has always been tough, very tough, but I will spare you the details… In fact, the reason I am sending out this message, is that I want to share a few concepts about myself, my Company, and my vision, with you.

First, I am not a conventional CEO, thus, K Systems LTD is not a conventional Company.

Many people tell me things like: "Why your sites do not look like the other startups' ICO sites?" or "Why are you investing more into backend development rather than marketing?", or even "Why do you always want to achieve perfection? That ain't the way you gonna make money!".

The answer, to all those questions, is:

Because I am honest.

I am honest to myself, in first place. I am proud enough not to become as cheap as a 39$, no programming required, template. I try to be creative.

I am honest with the people who believe in me, like my daughter and my wife, thus I must constantly challenge my mind and go deeper into developing new things. That keeps me alive.

I am honest with who's investing in me, I must deliver the best and most innovative products, always! That makes me entitled do go proudly on with my work.

Second, K Systems LTD is a hungry Company.

This meaning that K Systems LTD's objective is that of becoming a reference in several high tech and industrial fields. In order to achieve this, we have to work much and at the top levels, and that is what we are doing.

I personally wake up at 5 A.M. every day. I don't go sleep, I just fall asleep, late at night. In the last 3 years I have seen the same amount of dawns and sunsets… I work hard, and my team does to.

Finally, I want people from all over the World to work on my projects. People of any belief, of any color or race. Let us build the future, based upon trust, respect and technology.

Since we have got to have a "slogan" (as it seems required…) let it be:

"I help you, you help me!"

Cheers,

Mickael LEVY

ceo@ksystems.io

2. The Token

The **KSYS Token** is the **K Systems LTD Token**: Our company is a registered UK firm (#11291459, Unique Taxpayer Reference 765811430 A), building and deploying dApps for the Aerospace Industry (AS/EN 9100 Quality Standards) and providing ICO and security services for startups.

Our dApps white paper is available here: https://github.com/ksystemsio/KSYS_dApps_White_Paper

The KSYS Token is an ERC20 Token.

ERC stands for Ethereum Request for Comments. This is an official protocol for proposing improvements to the Ethereum network. '20' is the unique proposal ID number.

The KSYS Token is used in two ways:

a) Our KSYS 1 (AS/EN 9100 Aerospace Compliant) dApp is using it to reward the worker/company/machine that delivers the required work (as per official work order, stored in our private blockchain and IPFS) within the time frame and at the quality level which was agreed in the proposal/order phase;

b) KSYS token holders can use the token to purchase services within our ecosystem, a "Galaxy" (https://ksystems.io) where users can rent out a planet, get their ICO setup, security audits for their Ethereum Smart Contracts, specific consultancy services or all of that;

The KSYS Token official contract address is: **0xb09345CE9A795EfE675197838E5aCde392B71317**

The KSYS Token initial crowdsale contract address is: **0x7a30683E25c98cF6cf3306b2C41B743cb96c02c4**

The source code of the contracts is published and verified on Etherscan and available on GitHub.

KSYS Tokens can be used by users to buy services within the K Systems LTD Galaxy (https://ksystems.io), including renting a planet in it.

The KSYS Token IS NOT A SECURITY NOR A SHARE OF K SYSTEMS LTD.

3. The Token Distribution

A maximum total supply of 40,000,000 KSYS Tokens will be created between May 1st, 2018 and December 31st, 2018.

5,000,000 KSYS Tokens will be reserved for K Systems LTD to cover the ICO and Bounties costs and for the Team. We also plan to hold those KSYS Tokens to raise their nominal value.

The official KSYS Token PreICO and ICO site is: https://ico.ksystems.io

4. The PreICO

The **KSYS Token PreICO** will start on May 1st, 2018, at midnight GMT +1 time and will end on June 30th, 2018, at midnight GMT +1 time.

1,800,000 KSYS Tokens will be minted for that purpose, being the KSYS Token price set to 6000 Tokens for 1 ETH.

20% of the KSYS Tokens (360000 KSYS) will be reserved for the contract creator: **0x1d1D0F00194275DB6911f54c3aA1eCd1c799337d**

The KSYS Tokens will be sent out immediately to the purchaser wallet address upon the investment.

The soft Cap for the PreICO is set to 300 ETH, the hard Cap is set to 600 ETH.

5. The ICO

The KSYS Token ICO will develop in three tiers, each one of them lasting 60 days:

a. KSYS ICO Tier 1

The KSYS Token ICO Tier 1 will start on July 1st, 2018, at midnight GMT +1 time and will end on August 31st, 2018, at midnight GMT +1 time.

12,200,000 KSYS Tokens will be minted for that purpose, being the KSYS Token price set to 5000 Tokens for 1 ETH.

10% of the KSYS Tokens (1,200,000 KSYS) will be reserved for the contract creator: **0x1d1D0F00194275DB6911f54c3aA1eCd1c799337d**

The KSYS Tokens will be sent out immediately to the purchaser wallet address upon the investment.

b. KSYS ICO Tier 2

The KSYS Token ICO Tier 2 will start on September 1st, 2018, at midnight GMT +1 time and will end on October 31st, 2018, at midnight GMT +1 time.

12,800,000 KSYS Tokens will be minted for that purpose, being the KSYS Token price set to 4400 Tokens for 1 ETH.

10% of the KSYS Tokens (1,800,000 KSYS) will be reserved for the contract creator: **0x1d1D0F00194275DB6911f54c3aA1eCd1c799337d**

The KSYS Tokens will be sent out immediately to the purchaser wallet address upon the investment.

c. KSYS ICO Tier 3

The KSYS Token ICO Tier 3 will start on November 1st, 2018, at midnight GMT +1 time and will end on December 31st, 2018, at midnight GMT +1 time.

13,200,000 KSYS Tokens will be minted for that purpose, being the KSYS Token price set to 4000 Tokens for 1 ETH.

1,640,000 KSYS Tokens will be reserved for the contract creator: **0x1d1D0F00194275DB6911f54c3aA1eCd1c799337d**

The KSYS Tokens will be sent out immediately to the purchaser wallet address upon the investment.

The total soft Cap for the Token Sale (PreICO + all Tiers) is set to 1000 ETH, the hard Cap is set to 6000 ETH.

6. KSYS Token Public Exchange Listing

The KSYS Token will be listed on the public and decentralized Crypto Exchanges if the PreICO is successful (150 ETH collected).

7. Why Investing in The KSYS Token?

The K SYS dApps are meant to become the future standard for quality and production management within the **Aero Spatial** and **Automotive** industries.

The **K Systems dApps** are already changing the way high precision components for planes, cars or even satellite modules are conceived and built.

K Systems LTD ICO setup for startup companies is very functional and the **K Systems Galaxy** is a state of the art platform. As of writing, many companies already manifested the intention to use our services to launch their projects.

The **KSYS Token** is a way to invest in the future of Industry and Humanity, unlike other ERC20 Tokens, KSYS represents an actual value as K Systems LTD dApps and services are already producing economic benefits since 2015 and the KSYS Token will be used as the official currency of the K Systems Ecosystem (KSE).

8. The dApps

K SYS (K Systems) are a set of DApps that live on the Ethereum blockchain. The first of them**, K SYS 1**, is a production & quality management system (QMS) DApp for the aero spatial industry. It is a decentralized application that can be used to version, store, secure, certify and track all the data regarding the industrial production of a car, an aircraft or a satellite module. Forever.

K SYS dApps' implementation of the ISO Quality standards is achieved using multiple Smart Contracts that are linked to each other and that use the only decentralized consensus algorithm capable of meeting the performance requirements of applications on the blockchain, Delegated Proof of Stake (**DPOS**).

Each step and document involved in the production flow of the parts is permanently stored on the blockchain and **IPFS**, at the end of the process the parts are automatically compliant with the ISO quality standards, since the completion of every step is mandatory to move to the next one.

The **K SYS dApps** use the **KSYS** ERC20 token to reward the suppliers that have submitted the parts, and/or the documents required by the project, and uses **IPFS** to store the actual data (transport documents, drawings, emails, CAD files, invoices, CAM part programs etc.), they have a built-in penalty system for the suppliers or workers whom do not deliver on time, at the requested rate or at the required quality level.

K SYS dApps can operate on private blockchains and private IPFS clusters of nodes.

K SYS 1 is based upon:

- ***The ETHEREUM blockchain ~~(but may go to EOS in the future)~~***
- ***ETHEREUM Smart Contracts ~~(but they could be EOS SCs in the future)~~***
- ***The «Inter Planetary File System» (IPFS) (we do not plan to change this).***
- ***An enormous amount of experience in the IT security business and the Aero Spatial, Automotive and EN 9001 quality fields.***

9. Abstract

AS9100 (BS EN 9100) is the aerospace industry standard for quality and risk management.

Benefits of implementing the standard can include a reduced risk of product and service mistakes and fatal failures and, mostly, securing a license to trade.

The production workflow must proceed alongside the quality and risk management to push the output at the very top levels.

The KSYS dApps are designed to help industries delivering AS/EN9100 or ISO/TS 16949 certified parts seamlessly.

While implementing our **PreICO and ICO schemes**, we also developed a set of tools to speed up the process of deploying Smart Contracts on the EVM (Ethereum Virtual Machine) while checking them for security flaws, these tools will be used to offer our ICO Setup products and Services.

10. The big problem(s)

Implementing a formal QMS (Quality Management System) in an organization that doesn't have one, but hopes to be ISO 9001 compliant or certified, presents a unique set of challenges.

Blockchain is the solution, and K Systems LTD provides the dApps to achieve amazing results, we do that (achieving amazing results within the layer 7, 8 and 9…) since 1996.

A few of the challenges companies must face while attempting to implement the ISO quality standards without the **K SYS QMS** dApps are:

- Context of the organization – requires an understanding of the external and internal factors that could impact the organization's ability to meet its objectives.

- Identification of Stakeholders and Interested Parties – Although self-evident, the revised standards enlarge the group of stakeholders and interested parties beyond customers and owners / shareholders of the organization.

- Risk-based Thinking – An added dimension to decision making at all levels within the organization and encourages the consideration of risks and opportunities with achieving the desired objectives. Process level analysis has been present in sector specific standards; however, for many organizations the requirement to demonstrate risk–based decision making is challenging.

- Process Approach – A challenge even before the 2015 revisions. Organizations continue to address their management systems on the obsolete clause basis and

are in the journey of thinking along business processes. Identifying business processes at a relevant level and assigning process indicators for effectiveness, has proven to be of great value to those organizations that have successfully made the transition.

- Out-sourced Processes – The applicability of these requirements has not changed and yet the type of control to be exercised over outsourced processes includes consideration of the environmental aspects and impacts over the life cycle of the product or service.

- Leadership and Commitment – The requirement to demonstrate commitment to the organization's quality or environmental management systems and ensure the integration of those requirements into the organization's business processes has drawn in executive responsibilities in the certification processes. By engaging top executive management in such decisions, organizations are now able to demonstrate the value of an effective management system in assuring business success. Complex structures and large organizations have the difficulty of assuring and demonstrating such leadership engagement and commitment for processes previously delegated to the "quality" or "environmental" department.

- Multi-Site Coordination – Larger organizations have an increased level of complexity with multiple locations and assuring consistent roll-out of business processes across the locations. Especially when the focus is in awareness, training, and competency development in the requirements such as risk-based thinking across all levels of the organization. Technology can be a great friend for such organizations in deploying the knowledge across multiple locations.

- Timing – In many large organizations, the timing decision on planning and implementing upgrades to the latest revision is made at a corporate or divisional level. While global or corporate processes are more conducive for changes with a short lead-time, it is often a challenge at site / plant level to deploy the information and changes with short notice. Deployment of internal assurances like internal audits, corrective actions, and management reviews requires planning prior to undertaking the upgrade assessments. A project plan that includes timing of awareness, education, training, and gap assessments could make the journey more predictable and less prone to risks.

- Terminology – The revised standards indeed include new terminology for business concepts currently in place. Most organizations practice some version of risk-based thinking in their decision making; however, building awareness and implementing risk-based thinking into all levels of the organization and into all the business processes is challenging. Similarly, integrating terminology such as context of the organization, stakeholder's needs and expectations, and life cycle approach into current business practices is an evolution into the new requirements.

- Outcomes and Performance – One of the significant changes is the focus on “output matters” and “performance”. With the essential requirements for leadership commitment, risk-based thinking, and stakeholder expectations, organizations can focus on the achievement of intended results, i.e., output and performance. Organizations that have relied on volumes of procedures and documents that cover up inefficiencies may find it challenging to demonstrate the effectiveness of their business processes. The 2015 revised standards enable a strong focus on business outcomes and environmental performance such that value and return on investment in a certified management system is clear.

Another problem is the one faced by the startup companies while attempting to crowdfund their projects.

11. Our Solution(s)

The **K SYS dApps** are here to help businesses overcome those difficult challenges. In addition, our **ICO Setup Products and Services** make it very easy and cost effective to launch an ICO for any startup company.

Our dApps combine the use of these technologies to solve the various issues related to being EN 9001 Quality Compliant while maintaining the highest level of data security:

d. Blockchain Technology

By using blockchain technology as database, the K SYS dApps can permanently store each and every transaction made during the production of an industrial component, including commercial agreements between the parts, delivery time, penalties, etc. Every transaction has a specific timestamp and digital signature and cannot be modified. Also, the production workflow (DNC CAM machinery etc.) is validated in this way in every phase (i.e.: milling, piercing, etc.)

e. Inter Planetary File System (IPFS)

IPFS is used by the KSYS dApps to store the actual data, securely, privately and forever. For instance, all the PDF files regarding the commercial proposals, the projects’ CAD files, the orders, the invoices, etc. In addition, by using our IPFS Data Storage Engine, companies no longer need to spend lots of money for storage (NAS, Cloud…) and backup policies. And their data becomes automagically immune to the Ransomware Viruses like the infamous Cryptolocker.

f. ISO 27001, the international information security standard

ISO/IEC 27001:2013 (ISO 27001) is the international standard that describes best practice for an ISMS (information security management system). Our dApps (the Smart Contracts and all the code), undergo a deep security audit based on this standard before going into production: We deal with very sensitive data.

12. The Working Prototypes

In December 2017, a trial version of K SYS 1 was created in cooperation with I.A.T. S.rl. in Turin, Italy.

This pilot project showed that K SYS 1 represents an absolute innovation in the field of industrial production and quality control of flight components of the aerospace industry.

In this phase, it was also clear that the target market of K SYS 1 is not just limited to the suppliers of large aerospace corporations, such as GE AVIO, Leonardo (FINMECCANICA), Boeing etc., but also to themselves.

The KSYS 1 IPFS Data Storage Engine (DSE), can be used by anyone at: https://ksystems.io/DApps/KSYS1_IPFS_DSE

An example of our ICO Setup tools can be viewed at: https://wiz.ico.ksystems.io

13. An Example of K SYS 1 Implementation

Imagine that you run a high precision manufacturing company that we will call Z. Among other customers, there is a big aero spatial enterprise which is a leading manufacturer of commercial jetliners and defense, space and security systems. We will call this company “X”. You can work for X because you are “certified” to do so and because you can produce the parts that they require, while meeting the highest quality standards. Now, let’s say that another 20 companies like yours are involved into a project for X, for instance, the project X-YYY. Your company is busy producing high precision engine components, others are busy building the electrical systems, a few others are building the structure of what will be the latest jetliner.

X uses K SYS 1 DApp to version, store and track the projects data, so all the suppliers involved in project X-YYY must comply and use K SYS 1 as well.

Project X-YYY, in K SYS 1, is a smart contract that is deployed on the X blockchain. Data is stored using IPFS and is retrieved when needed thru the X-blockchain explorer (that keeps track of every transaction, in every block of its blockchain, forever). What does this contract do? It is used for many purposes, as we will see.

All suppliers upload their data to the contract and X has a perfect overview of the work progress which is being made. For instance, the smart contract for X-YYY

has, among the other functions, the capability to execute an operation when a condition is met: In this case, your company delivered the parts and the quality control report on time, so the contract X-YYY executed the function “Pay Z for the work done”.

Another X’s supplier, T, a company from southern Italy, has delivered the parts on time, but some dimensional control reports are missing from the contract’s data storage. The contract itself is now requiring the supplier to upload this data, before it can execute the function “Pay T for the work done”. A few days later, the data has been uploaded and verified, so T gets its money. Company H, from Poland, was supposed to deliver the sit belts on January 5th, 2024, but the smart contract did not get any data regarding this delivery and began charging H a penalty the following day, as instructed by its coding. One month later, the sit belts were delivered, and the contract updated, so H got payed but much less than what it was supposed to get. X-YYY contract was also coded to obey to its owner(s), so H was not included in any other future project by X.

Project X-YYY became reality on June 8th, 2029. The brand-new jetliner took off for the first time and immediately Saudi Arabia ordered 500 of them. Things went well for X-YYY, and by 2032 more than 2000 of them were flying passengers around the world.

But on August 18th, 2033, an X-YYY flying from Paris to New York, crashed in the Atlantic Ocean. There were no survivals. The investigations began immediately, and it was clear, after finding the black box, that an engine explosion caused the accident. By accessing the data stored in the X-blockchain, the investigators could quickly see that all the part programs and the procedures followed by Z were correct. Z was also using K SYS 1 DApp on their own blockchain, so the investigations continued there.

By browsing the data on Z blockchain, it appeared clear that one batch of parts had its heat treatment done by a company called F. The part that caused the explosion was coming from this batch, as well as another 15. By looking again at the data on the X blockchain, investigators found out which planes had these components on board and grounded the affected aircrafts. After further inspections, it became clear that F did not treat the parts at all, and that after a few thousand hours of flight, these components would detach from their original position, possibly causing an engine explosion.

14. Conclusion

The **K SYS dApps** are meant to become the future standard for quality and production management within the aero spatial and automotive industries.

The **K Systems dApps** are already changing the way high precision components for planes, cars or even satellite modules are conceived and built.

Our **ICO Setup and Security tools** have already been used by successful campaigns, such as the one of CoinBerry (CNBY Token).