



Pavo

- **IoT Blockchain for the AgTech Ecosystem**



Pavo

White Paper

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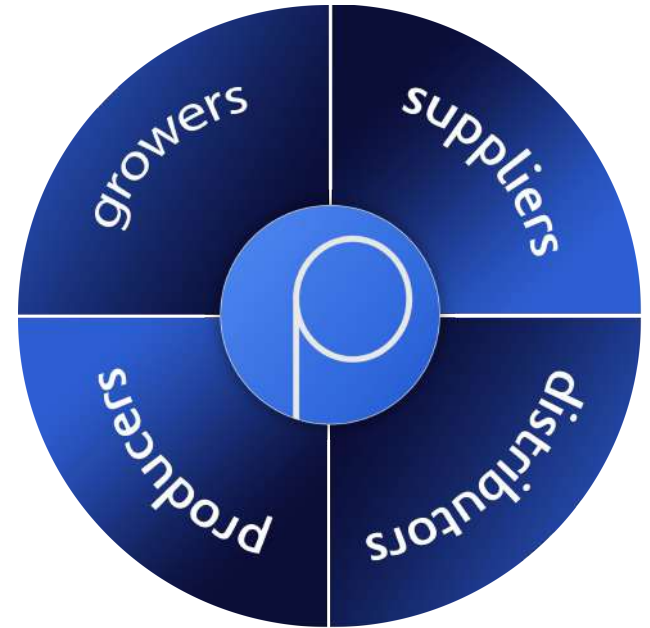
Introduction

Our Vision

By bringing together the cutting-edge technologies of IoT and blockchain, and our extensive experience in crop cultivation we are serving an agriculture (“Ag”) ecosystem focused on highly technologized crop growing, processing, and distribution. We bring the high efficiency of IoT and transparency of blockchain into every stage of the entire lifecycle of agricultural business sectors.

The Pavo team has vast experience building traditional monitoring systems for almonds, hazelnuts and walnuts for the European market. Our present IoT solution for agriculture was developed in early 2017 and deployed later in the same year. This year, we’re launching the Pavo cryptocurrency based on the blockchain Ethereum ERC20 standard as the next step in developing the project.

*IoT (Internet of Things) is the network of physical devices, vehicles, home appliances and other items embedded with electronics, software, sensors, actuators, and connectivity which enables these objects to connect and exchange data.



Our ultimate target is the trillion-dollar U.S. food and agriculture industry (roughly 6% of the GDP). American farm outputs alone total roughly 1% of the GDP, or over \$130 billion. Corn, wheat and soybeans routinely top the rankings of U.S. production numbers, and California - which produces over 80% of the world's almonds, and some \$6 billion worth of grapes annually - is the largest agricultural state in the country. (Globally, food and agribusiness comprise a \$5 trillion industry.)

We are spearheading our efforts of product maturation in the red-hot cannabis industry, where blockchain-enabled transparency, and the Pavo IoT platform, is most needed. The solution is already deployed in two San Francisco Bay area grow houses.

Through the use of the turn-key Pavo platform, every business-to-business (B2B) cannabis professional will benefit from the IoT and blockchain capabilities with minimal additional expense, special expertise or major disruption to their day to day operations. Pavo brings a fresh, new, approach to an exciting industry where relationships take years to develop and the extent of control is limited.

As the Pavo solution fully matures in the cannabis market, we will gradually tackle adjacent crop sectors (e.g. indoor vegetable farming), and then move on to larger sectors, to expand market penetration throughout the entire agriculture ecosystem.

Market Overview

Globally, food and agriculture represent a \$5 trillion industry, which only gets bigger with population growth. Some forecasts call for the total, global, caloric demand to increase by 70 percent by 2050, when there will be a projected 9.6 billion people on the planet, and crop demand for human consumption and animal feed will increase by at least 100 percent. The smart agriculture market alone is projected to grow from \$5.18 billion in 2016 to \$11.23 billion by 2022, at a compound annual growth rate of 13.27% between 2017 and 2022. And the legal cannabis market is poised for even more rapid growth.

The discovery of gold at Sutter's Mill in 1848 sparked a rush to California of those seeking to make their fortune. Likewise, the current Green Rush is upon us, also anchored in California, as thousands of investors, entrepreneurs and corporations look for ways to capitalize on the nascent cannabis market. Ironically, John Augustus Sutter set out in the early eighteen forties not to find gold, but to create New Helvetia, a kind of agricultural farming utopia, wherein he might retire.

Projections call for the legal cannabis market in the United States to grow from over \$4.6 billion in 2014 to almost \$23 billion in 2020, a 31% compound annual growth rate.* (Some projections range as high as \$60 billion within a decade.) This is attributable to a spate of new legislation permitting cannabis consumption by adults on a recreational basis.

Total demand for recreational cannabis in the U.S. is estimated to exceed that for wine and organic food. Cannabis dispensary annual revenue per square foot already rivals that of Whole Foods Market and Costco.

Cannabis supply chain participants are increasingly looking to technology solutions such as cloud computing, Internet of Things (IoT) networks and electronic sensors to ensure that their operations are both financially and environmentally sustainable, with growing consumer brand appeal.

* 2016 Cannabis Business Factbook

Problem Statement

Increased global caloric demand is placing new strains on agriculture. For example, by 2030, according to a United Nations report, some 40 percent of water demand may not be met. To better manage vital resources, farms are seeking out new ways to collect and analyze data on crop yields, soil profiles, weather and climate.

Regarding cannabis, as of late 2017, some 29 states, and Washington, D.C., have legalized medicinal cannabis, and 9 states, and Washington, D.C. have legalized recreational use.

While this sounds promising, with demand and social acceptance increasing, market participants are still facing several challenges with regards to consistently delivering profitable high-quality crops:

1. Decreasing prices.

Increasing consumer demand, fueled by greater legal and societal acceptance, has not led to a rise in prices. On the contrary, an expansion of growing facilities, increasing both supply and competition as well as a rapidly maturing industry trying to find price equilibrium is driving prices downward.

Since 2014, wholesale prices for cannabis have fallen by 70% and consumer prices in Colorado, one of the very first states to legalize recreational use, have dropped precipitously, in the past year by as much as 40% for 1/8 of an ounce. Prices for a full ounce have dropped on the order of 25%.

2. Rising costs.

At the same time, utility costs – one of the largest expenses for growers – are rising. Since cannabis is the only crop that thrives indoors with artificial light, growers are getting pinched by rising costs and falling prices.

3. Yield and Quality.

Growers are striving to produce high-yield, high-quality product to remain competitive in a growing consumer market. In the absence of suitable technology, growing cannabis is labor intensive and hard to scale.

4. Growing space.

Indoor growers struggle to secure and maintain long-term leases for warehouse space, as landlords tend to be hesitant to lease space for cannabis production, largely because of a lack of trust.

As one grower explained, “landlords have three expectations of us when we inquire about leasing space: i) that we will not pay on time; ii) that we will mess up their building; and iii) that we will leave in the middle of the night.”

5. Federal prohibition.

Industry participants are constantly at risk of federally-chartered banks closing their accounts because of the U.S. federal cannabis prohibition, forcing them to deal in fiat cash.*

* In the U.S., individual states are gradually legalizing cannabis, even as the federal prohibition remains in place. This commonly leads to nationally chartered banks refusing to do business with cannabis industry participants, forcing them to transact business in cash. The resulting security and safety issues can be mitigated by the introduction of a digital cryptocurrency specific to this market.

6. Regulatory oversight.

The legalization of cannabis has brought with it a raft of legislation at multiple levels of government, leaving market participants struggling to maintain compliance.

7. Supply chain.

As the industry comes out of the black market, growers and other participants are looking to elevate their game when it comes to sourcing and managing their supply chain. They're also looking to openly network with other industry professionals.

8. Product differentiation and branding.

Growers and other industry participants are increasingly turning to classic Consumer Packaged Goods (CPG) tactics, such as stressing quality and purity, to differentiate their products and stand out from the crowd.

9. Environmental issues.

Increased electricity consumption due to indoor grow houses leads to increased greenhouse gas emissions. (Specifically, increased demand for electricity in Colorado, Washington and Oregon, attributed to growers, conflicts with those states' efforts to reduce greenhouse gas emissions.) And consumers are concerned about the unintended environmental side effects of solutions and nutrients used to nurture the crop.

10. Lab Testing.

Testing for safety compliance, a cost often measured in the tens of thousands of dollars per crop, further adds to indirect operating costs. (The global cannabis testing market alone is projected to reach \$1.4 billion by 2021.) Growers know that test lab certification is a must-have for taking product to dispensaries.

Therefore, it is only natural that the cannabis industry is turning to technology to alleviate these burdens. As the cannabis industry experiences unprecedented growth fueled by legalization, growers need to prepare for new regulations and increased competition to win over increasingly sophisticated consumers. Thus, running grow operations with utmost efficiency while staying well within the boundaries of local and state laws at all times becomes a matter of survival for all cannabis producers.

Unlike many technology companies that have issued private digital currencies (a.k.a. a cryptocurrency), **Pavo already has a working product** that is in deployment with customer prospects in multiple grow sites. Pavo provides an IoT software platform for industrial agriculture, which unleashes significant operational efficiencies.* Implementing blockchain will provide increased product transparency for crops from seed through harvest to consumption. Proceeds from Pavo's coin issue will be used to accelerate continued product and market development.

* Learn more on the Pavo's technology in the Chapter "Pavo Technology." Details on how it solves industry problems can be found in the chapter "Pavo Functionality Solving Industry Problems."



The Pavo Project

Project Overview

It's worth repeating: Pavo already has a working Internet of Things software platform that is in deployment in real-world environments in California, USA. We are continuously refining it to achieve the best crop performance while integrating with the blockchain to transform the solution into a unified ecosystem that makes it easy to trace each plant and optimize the entire supply chain.

The Pavo project is anchored in two major components that meet the needs of the agriculture:

- 1) A fee-based hardware and software platform for growers** designed to increase the yield, quality and purity of their product, create product differentiation, and maintain regulatory compliance.*
- 2) A cryptocurrency for the entire agriculture ecosystem** – including growers, wholesalers, manufacturers, and suppliers – to be used for secure, safe, and reliable payments.**

* See chapters "Technology Overview" and "Pavo Technology in Details" for more information.

** See chapters "Technology Overview" and "Pavo Technology in Details" for more information.

As one grower put it, “dealing in cash is not just a hassle, it's dangerous. Somebody looking at me doesn't know if I'm carrying my lunch in that bag or \$40,000 in cash.”

Blockchain, combined with cost-effective, low-maintenance, cloud computing and Internet of Things technology, has the potential to profoundly transform the entire cannabis industry. It's now possible to deliver compelling tools that enable growers to deliver high quality product, and sustain a high-volume, high-margin agriculture business, on par with the wine and coffee industries.

The comparison to the wine and coffee industries is important, due to the comparable size of the markets, vast consumer acceptance, and the similar stratification of wine, coffee, and cannabis into different varieties or strains.

According to The Wine Institute, California wine sales hit a new record in 2016, with over 238 million cases of wine sold at a retail value of over \$34.1 billion. Wine shipments to the U.S. from all sources, foreign and domestic, had an estimated retail value of almost \$60 billion.

Regarding coffee, the Specialty Coffee Association of America estimates the size of the U.S. coffee market to be \$48 billion annually, with just over half of that comprised of specialty coffees.

There are an estimated 4,500 wholesale cannabis growers in the United States, approximately 4,700 dispensaries, as many as 1,300 infused product manufacturers and over 100 testing laboratories.

The cannabis market is fragmented, and growers are only now transitioning to software-driven cultivation. A large number of growers practice cultivation techniques that are not well documented or subjected to scientific rigor. Recently introduced regulatory requirements related to seed-to-sale tracking have forced growers to introduce basic inventory tracking and compliance capabilities provided by small, niche, vendors. These “pure play” software providers lack any IoT, blockchain component or an equivalent of Pavo’s all-encompassing vision for the future of the cannabis industry. Similarly, cultivation equipment providers are either not specialized in cannabis or, only being providers of one type of products or services, such as lighting providers, hydroponics providers, cannot provide an integrated solution covering the multitude of sensors and the hardware and software platform that Pavo can support.

Drawing on our key points of differentiation, superior technology and seasoned management team, we are aggressively targeting a significant share of the wholesale cannabis grower market in the USA. We see the demand for the same values from other sectors of agriculture both in the USA and in other geographical markets. Consequently, we plan to transfer the proven Pavo solution first to other high-value crop sectors in the US, and then to all agriculture sectors worldwide, starting with Europe, where our team already has vast experience of implementing monitoring systems in agricultural businesses.



Pavo Technology

Technology Overview

Growers are increasingly turning to technology to better manage cost inputs to the production process. Pavo's IoT blockchain software platform is designed for the data-driven agriculture professional of the future. Right now, the IoT software component exists and is deployed at two cannabis grow houses in California, USA. We continue to perfect it to allow our clients to achieve better product characteristics while increasing process automation and minimizing expenses. Through the implementation of the blockchain element, we'll enable our clients to not only produce better crops but also to optimize their sales, distribution, and supply planning activities.



Pavo IoT Deployed in a San Francisco Bay Area Grow House

Specifically, the existing Pavo **IoT software platform** helps the user:

- Record and monitor production practices in real time via the Pavo IoT gateway.
- Record, report, and analyze activities from planting to spray records to shipping.
- Track labor costs and productivity to optimize human resources and related costs.
- Easily measure and track the entire cultivation operation from anywhere.

These activities help the grower document, archive and learn from past experience, leading to better yields, lower costs and higher top-line revenues.

How it works right now. Soil sensors are placed into the soil close to the plants, and CO2 sensors located in the room where the plants are grown regularly collect sensor data. This information is then transmitted through the gateway into the data storage from which it is presented to the user through an intuitive and user-friendly interface. The user tracks the information and uses it to optimize the whole growing cycle by ensuring that vital crop measurements stay within optimal ranges.

Pavo Technology

ROOMS

- Back Room
- Middle Room
- + Create room

Mike Indoor Real / Back

CURRENT CROP | LOCATION (RFID) | AUTOMATION | ORDERS | PREVIOUS CROPS | ROOM SETTINGS | IOT CONFIGURATION

21 OCT

CURRENT PHASE: Seedling
START DATE: October 20th, 2017
NUMBER OF PLANTS: 256
STRAIN: Golden Ticket
MEDIUM: Rockwool

CROP ACTIONS

- EDIT CROP

PHASE

- CLONING
- SEEDLING
- VEGETATIVE

112 Days
72.19 °F Temperature
61.16% Humidity
-- PPM CO2

RECENT ACTIVITIES

- Michael J. Booker** added a product usage record. 4 weeks ago
Application Date: 2017-11-24
Method: **SPRAYING**
Fulvic: 50ML
water: 1GAL
Delete Copy
- Michael J. Booker** added a product usage record. 4 weeks ago
EC Substrate Solution
2 6.2 6.7
Application Date: 2017-11-24
Method: **OTHER**
MILLS PART A 3-0-1: 15ML
MILLS PART A 3-0-1: 15ML

Screenshot of working Pavo software

What's changing. Right now, we are perfecting this technology through more research and development of our sensor systems, delivering new sensors which will allow us to collect data on new cultivation parameters, at greater frequency. In 2018, we're looking to introduce luminosity, contaminants, water quality parameters, such as pH, ORP and salinity. We are also accordingly updating the interface to store more complex data.

As a next step in improving the Pavo IoT system, we are adding automation and environmental control ("orchestration") features which will allow us to not just collect information for use in operations, but to manage the entire cultivation operation from anywhere. This way, growers won't even have to go into the greenhouse to adjust the environment, as they will be able to do it from a distance through the same interface.

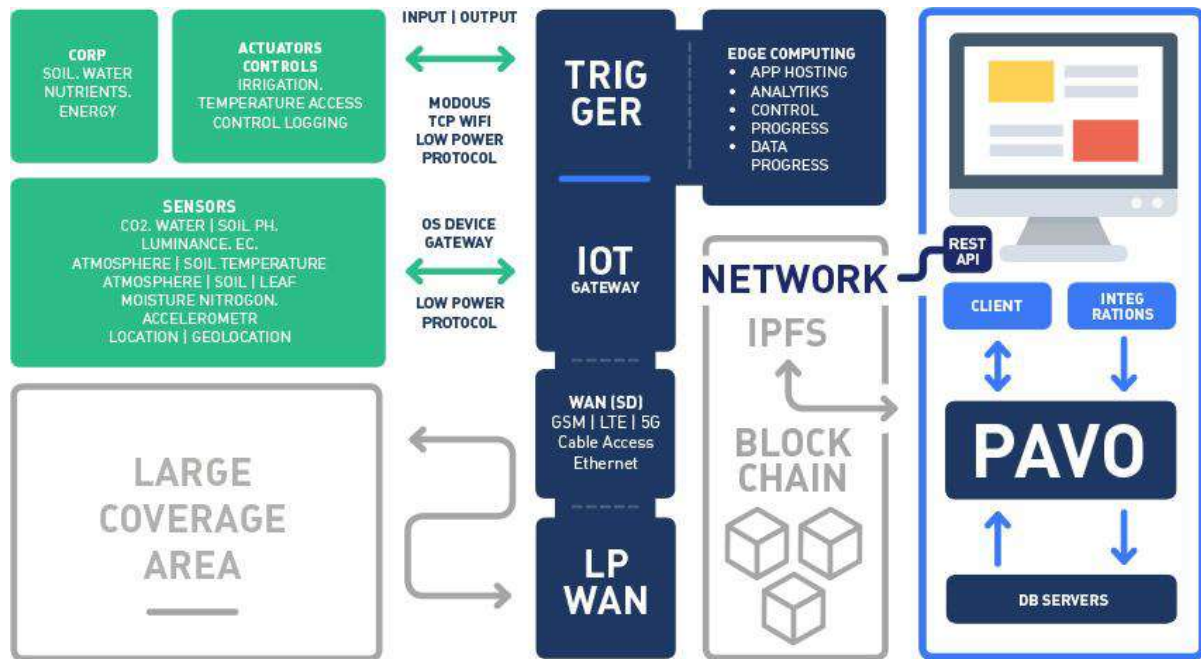
Further introduction of AI functions will help growers make decisions without having to create a script. This way we can start creating automation systems that can replace human labor.

What sounds complicated shouldn't have to make it difficult for growers. Right now, deployment is being done with the assistance of technicians but further improvements on the hardware will allow us to deploy applications with real time capabilities. This means that users will be able to pick up sensors at any store, install them themselves and use an app on their phone to enable data collection.

In addition, implementation of **the blockchain element** and **marketplace functionality** will allow us to transform a platform with narrow specialization for growers into a full functioning ecosystem for all participants of the modern agricultural market.

What it means. Key data about the growing process of each harvest lot will be stored in the blockchain and cannot be falsified. Pavo will be able to certify the reliability of all information collected from growers and other participants of the product supply chain.

Transparency of information makes it possible to elevate the trade process from questionable and inefficient person-to-person interactions to a modern e-commerce form, where each grower will have a personal page with Pavo-certified products available for purchase, and buyers will be able to make purchases from their laptops or mobile phones. Transparency will also help ensure that products are not diverted to the black market, providing safety for cannabis growers from a legal standpoint. All trades will be processed with smart contracts.



Here is the layout of the Pavo platform.

Elements of the model:

Crop - information about the soil, water, nutrients, energy and plant material that reflects the grower's livelihood.

Sensors - sensors in the crop gather environmental data and send it through the Pavo IoT gateway, on the blockchain.

Actuators - irrigation devices, temperature controls, and even physical access control devices may be controlled through the IoT gateway to manage the crop.

Edge Computing - distributed compute power ensures the solution scales for large operations.

Wide Area Network (WAN) and Low-Power WAN (LPWAN) - these communications technologies carry the data to the Pavo cloud-computing platform that hosts the main application.

IPFS - InterPlanetary File System technology provides a highly scalable, distributed data storage solution.

REST API - use of standardized Application Programming Interfaces (APIs) enable integration with currently used niche or other solutions.

DB Servers - database servers respond to end user interactions to view, manipulate and store data.

Client - end users (i.e. farmers or growers) access the data through a web browser or smartphone app, where crop information is presented and can be acted upon.

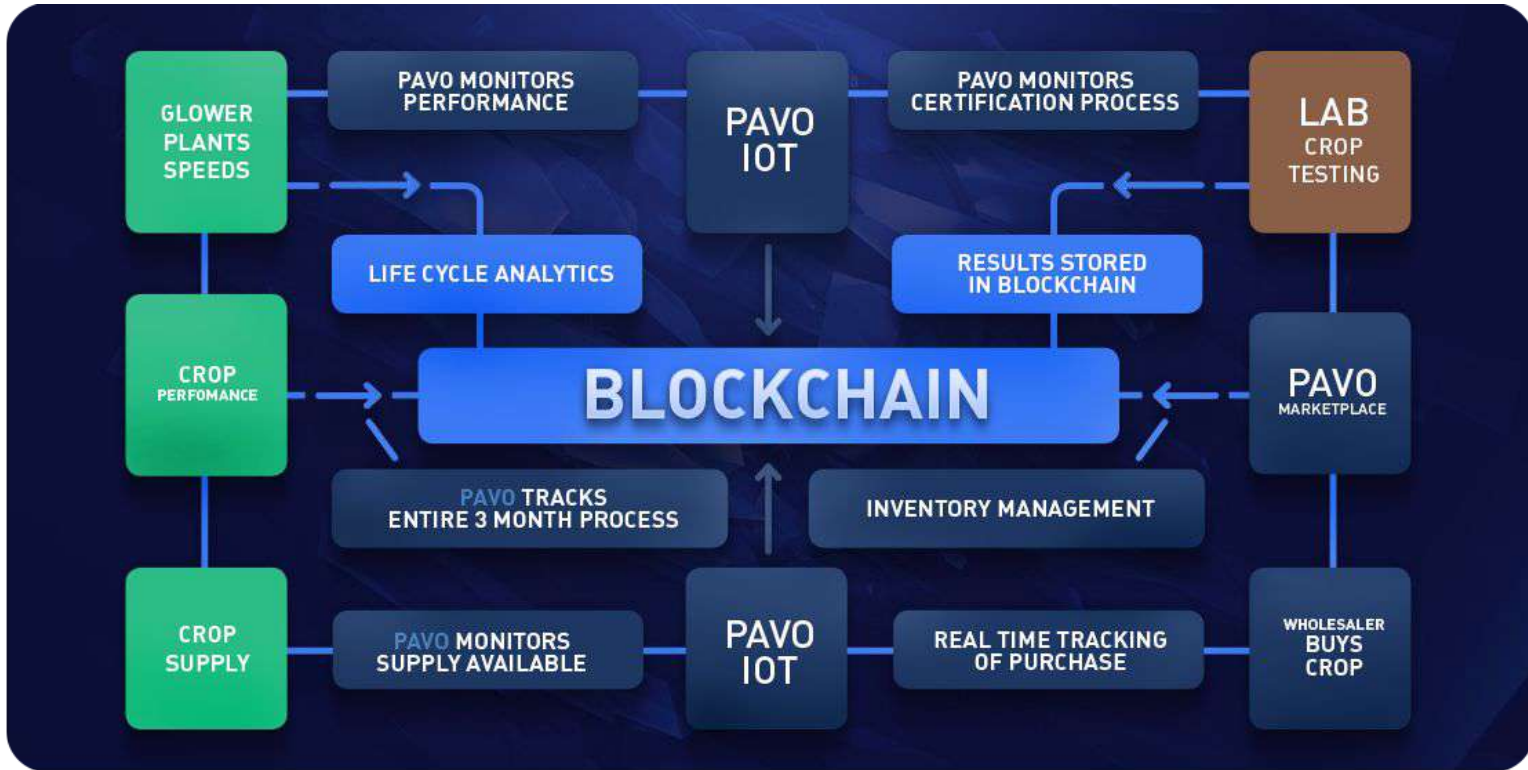


Diagram of information flow in the Pavo ecosystem



Pavo Technology

Pavo Technology in Detail

The Pavo platform is enabled by a hybrid (hardware/software) solution that is easily accessible through user-friendly desktop, tablet and mobile interfaces. Pavo users can view key activities and metrics related to their operations in real time with high precision reporting and sophisticated analytics built on top of that intelligence.

When the Pavo solution is in place, it delivers full visibility (e.g., overseeing growth stages, harvesting, managing inventory, and tracking sales), along with a better understanding of the end-to-end grow operation. The Pavo dashboard displays at-a-glance information on the vitals of the grow operation such as resource utilization and the cultivation staff's actions in reverse chronological order, in the form of a detailed news feed.

Once enough information is gathered in the system over the course of multiple rolling grow cycles (i.e., approximately 15-18 weeks), recommendations customized for each grow site significantly reduce power, water, supplies usage and undue maintenance costs. Constant monitoring of streams of sensor and operational data helps Pavo automatically compute a GrowScore per canopy zone that is presented in the form of a heat map. The aim is to always promote better cultivation recipes and crop management practices for every specific site, with customizable granularity per grow site.

Pavo also facilitates on-site communications and assigns tasks to pre-defined human resources, with an eye towards optimal resource scheduling and further process automation. Cultivation staff can not only reach vital performance indicators on-the-go but can also conveniently log their expert impressions on the current crop conditions to form a more complete picture of crop performance overtime.

The Software Component

Pavo is focused on delivering compliance, smart contract and yield management capabilities to the legal cannabis industry by transforming its clients' data into actionable intelligence. By collecting and consolidating information from “things” with the intelligent IoT blockchain platform, Pavo's clients can transform raw data into a mission-critical operational decision support tool.

By gathering crop, supply chain, and other ecosystem data within the Pavo platform, we provide our clients with more than just reporting: advanced analytics, predictions and optimized operational systems are now possible. Our clients will ultimately be able to move away from making guesses to making data-driven decisions that counter-balance margin-reducing trends such as lower wholesale prices and higher electricity costs. We provide a single point of truth for the grower with immutable authenticity.

Drawing on the platform, Pavo also offers professionally produced educational content for growers to augment their knowledge on everything cannabis (and, in the future, other crops). A series of dedicated videos will demonstrate best practices, cultivation techniques and newest findings from across the Pavo community.

The Hardware and Sensors

Pavo provides an intelligent platform that automates the collection, transmission and analysis of environmental (temperature, humidity, pH, CO2 content), soil, fertilization and irrigation data streams in a secure manner with wireless, ultra-low power sensors. This functionality is complete and is already being deployed by growers.

The data collected is used to examine the crop environment by applying cloud-computing, edge-computing and big-data analytics to create methods that will improve production efficiency.

The platform is designed to manage and integrate with internal and external processes such as control systems for production, irrigation, climate; API management for logistics, access control, biometrics and compliance among other third-party applications all while securing data, managing connectivity and giving the user real time access with a mobile application.

Given the high value of cannabis crops, industry participants tend to obsess over security. Existing solutions are fragmented, disconnected, and costly to maintain. Pavo takes operational security very seriously. Development plans include support for cultivator identification and authorization per zone, automatic and ad-hoc audits as well as incident alerts for added safety and security.

PAVO
PLATFORM



DATA SENT
TO APPLICATION -
MOBILE - DESKTOP

INPUT

- AIR TEMPERATURE
- HUMIDITY
- SOIL MOISTURE
- PH
- CONDUCTIVITY
- CO²

SENSOR



OUTPUT

- FAN
- LIGHTING
- IRRIGATION
SYSTEM

A Highly Scalable Solution

The Pavo solution is architected to support the development of a REST API that can be tapped by adapters which can seamlessly integrate with a multitude of third-party irrigation, lighting and cultivation systems, among others.

In addition to blockchain-powered components, Pavo's enterprise-grade software platform is architected for the high performance and scalability demands of real-time grow operations management. It is built on an auto-deployable, redundant, distributed cloud-based back end that can be scaled up or down on demand.

Machine Intelligence for Agriculture

What makes the Pavo platform truly different from other enterprise solutions, such as basic inventory management software, is its focus on marrying applied machine learning with the team's decades of experience in agricultural yield management techniques. The Pavo team includes data scientists and executives with direct experience in implementing enterprise-grade predictive analytics solutions that turn data into actionable insights.*

* Details are in the "Team" section.

Pavo's unique actionable insights, delivered via a web browser or smartphone app in the form of plain-language instructions, positively impact key performance indicators for growers. Such insights go beyond basic analytics capabilities that report on what has already happened and venture rather into the territory of predictive and prescriptive machine intelligence.

In an effort to make cannabis the most data-driven industry in the agriculture sector, which will make it an example and stimulus as other sectors adopt the platform, Pavo utilizes machine learning algorithms extensively. The Pavo platform automatically analyzes the multi-modal data that it collects from a wide variety of sources such as sensors, select third-party vendor feeds, existing crop management systems, and human data inputs from day-to-day operations.

The highly granular data is cleaned up, wrangled and put into a machine learning-ready format. Sensor level and plant level data is transformed into a dataset that lends itself well to machine learning. This typically takes the form of a large matrix that is the result of means denormalizing many different data attributes from separate sources, through a periodic, automated process.

Predictive models drive many high-value use cases, including but not limited to:

- Crop Identification
- GrowScore
(Automated Corrective Crop Monitoring)
- Crop Quality Recommendations
- Crop Yield Prediction
- Predictive Maintenance
- Crop Demand Prediction
- Lab Test Optimization
- Fraudulent Data Detection
- Intrusion Detection

Pavo IoT combines LPWAN Wi-Fi location and the new Low Power LAN protocol into a single device. The Wi-Fi location capabilities allow geolocation services using much lower power than GPS-based location solutions. Pavo supports multiple sensors, interfaces, and I/Os and is interoperable with any adjacent open system.

PavoCoin

PavoCoin (PAVO) is a cryptocurrency payment system that enables agriculture market participants, such as growers, producers, innovators, retailers and service providers in our network to accept digital payments from their customers and community members. PAVO is a functional usage coin.

PAVO facilitates transactions among ecosystem participants and serves as an electronic alternative to traditional payment instruments like cash or credit cards. This mitigates both security risks and risks due to a nationally-chartered financial institution shutting down an account. Our mission is to offer a multi-purpose blockchain focusing on value exchange that maximizes the total value for all stakeholders. We are actively developing cutting-edge usage token functionality and wallet features such as recurring payments, proof-of-receipt and exclusive escrow for future exchanges of value provided directly to a PAVO wallet after payment.

Furthermore, PavoCoin will facilitate smart contract execution between market participants and data sharing across the entire supply chain.

A Simple Wallet

For many users, PAVO will be their first cryptocurrency experience. This presents both an exciting opportunity to introduce millions of users in the agriculture industry to cryptocurrency and a significant responsibility to design an experience that is simple and secure.

Instead of requiring a complicated wallet setup when users install the app, users will be gradually introduced to the concept by earning and using PAVOs.* User wallets are created automatically and synced between devices with an encrypted cloud backup. This matches the seamless experience users expect from mobile apps. Additionally, as users earn more and become familiar with cryptocurrency, they will have the option to take control of their wallet, off-device, for increased security.

* See the Chapter "Pavo Business Model" for details.

Smart Contracts

Blockchains are global, transparent, secure ledgers that are ideally suited for storing data that is valuable to many different collaborative and potentially competitive parties. Consequently, blockchains present immutable ledgers that anyone in the world can view and everyone can verify. They are perfectly suited for creating and codifying agreements – smart contracts – between members of the agriculture market, and first and foremost the cannabis ecosystem.

Pavo takes advantage of the digital and verifiable nature of blockchain to solve the myriad of challenges the industry faces as the market enters the mainstream. Blockchain smart contracts are ideal for recording and facilitating the exchange of value, goods, services, and confidential data.

Putting cannabis data and transactions on blockchain smart contracts will increase the speed of service, save companies hundreds of thousands in reduced paperwork, keep track of quality and yield-related transactions, and provide the recipes for great new innovative products.

Within the Pavo platform we intend to use smart contracts to support the forward sale of crops, and to secure transactions through the marketplace. Each transaction will go to the Deal Creator Contract. The Deal Creator Contract will verify it, creating a Deal Contract, exchanging tokens if necessary, and send the amount to the created Deal Contract.

To provide decentralized, disaster-resistant ledgers for the agriculture industry, blockchains are a modern requirement. Any other architecture is fragile or dangerous by design.



Pavo Technology

Pavo Functionality Solving Industry Problems

Pavo provides a solution that is responsive in many ways to the challenges facing the agriculture industry and the cannabis industry in particular:

- A software solution that helps with regulatory compliance from seed to market.
- A solution that helps growers better manage the costs of labor, supplies and electricity.
- A way for growers to better track their product and test results, and to better brand themselves as providers of a safe, high quality, environmentally friendly product.
- A secure digital cryptocurrency to obviate the problems and dangers of dealing in cash.

Pavo will help the fast-growing cannabis ecosystem by delivering capabilities along several key lines of user value, providing a solution to several major problems faced by the industry*:

Yield management and quality maintenance. Based on the scientific and horticultural expertise of our leadership team, engineers, and advisors, we anticipate that cannabis growers may see yield increases of as much of 30% from using the platform (which is supported by early data collected from initial deployments currently testing the product.) We expect a similar yield growth for other high-value crops, and lower but still significant yield growth for other agriculture sectors.

Improving Quality. Pavo provides an ever-expanding repository of knowledge for the grower to draw upon to control their operations for success and sustainability. Growers must have a strong understanding of what goes into the production of every element of their growth strategy.

* See details in the Problem Statement Chapter.

For example, to grow high-yield, high-quality indoor cannabis, growers work to create a controlled photosynthetic process, which includes atmosphere, lighting levels, humidity and other elements. Knowing and controlling what works is the key to grower success and sustainability.

There are 16 elements that must be controlled to achieve the yield of a high-quality crop. The first three elements are carbon, hydrogen, and oxygen.

While crop growth starts, and ends with the grower's ability to deliver the appropriate amount of photon energy, this is just one element. Growers must use primary "macro" nutrients to fertilize their crops. These are nitrogen, phosphorus, and potassium.

Secondary nutrients are also needed - calcium, magnesium, and sulfur. While these three elements are used less than primary nutrients in the fertilization process, they do play an important role in fertilization programs. Beyond improving crop performance, they assist with meeting clean air standards and efforts to improve the environment.

Lastly, growers use micronutrients. Such elements include boron, chlorine, copper, iron, manganese, molybdenum, and zinc. Think of these elements as food for plants. While they are used in very small amounts, they are just as important to plant development and profitable crop production as the major nutrients.

Cryptocurrency in circulation among ecosystem participants. This is particularly important for the cannabis industry, as cannabis ecosystem participants routinely have bank accounts shut down in response to large cash transactions, due to the U.S. federal prohibition on cannabis. To overcome this hurdle, Pavo's blockchain-based cryptocurrency will provide a secure payment vehicle throughout the ecosystem.

Integrated compliance. Pavo also helps growers achieve peace of mind by ensuring compliance every step of the way, from seed to sale, thanks to easily traceable section and batch-level unique identifiers*. One of Pavo's features is the ability to "tag" and follow plants throughout their full cycle of production and sale.

Pavo knows how many plants there are, their location, harvest result, transport and distribution. This is the same data required by regulatory agencies. Pavo will create the necessary integration with compliance solutions to pass this data in the most automated and simplest way possible, making it easy for cannabis growers to fulfill their legal responsibilities**.

Supply chain transparency and efficiency. Pavo smart contracts between growers and suppliers can facilitate the transfer of crop forecast information upstream in the supply chain, to better inform suppliers of their customer's coming demand.

*One of Pavo's features is the ability to "tag" and follow plants throughout their full cycle of production and sale. Pavo knows how many plants, their location, harvest result, transport and distribution.

This is the same data required by the authorities. Pavo will create the necessary integration with compliance mechanisms to pass this data in the most automated and simple way possible, making it easy for growers to fulfill their legal responsibilities through automatic data keeping, mediation and presentation.

**Growers will still need to do some things manually, as we will not become legally bound to be the compliance authority resource; we will be a data keeper and mediation and presentation platform only.

Simply put, this capability addresses the supply chain problems so clearly illustrated by the “beer distribution game” created at the MIT Sloan School of Management in the early nineteen-sixties. The game illustrates the challenges present in a multi-tiered supply chain system focused on a single product. It also illustrates links between System Dynamics theory and Feedback Control Theory – that systems with negative feedback loops and time delays can lead to oscillation and overload, a pattern of behavior observed in many real-world systems.

Efficiency and transparency upstream in the supply chain should lead to lower costs for growers. Indeed, smart contracts may be struck between growers and suppliers that guarantee lower prices in return for sharing crop yield forecast and related data.



QUALITY & YIELD MANAGEMENT

- Quality, purity and provenance
- Complete brand assurance
- Higher yields for growers



TRADING FUTURES

- Futures trading of the cannabis commodity
- Blockchain-enabled smart contracts
- Multiple harvests per year



REGULATORY

- Keep cannabis off the black market
- Full track-and-trace capability
- Seed-to-sale management



SUPPLY CHAIN MANAGEMENT

- Supply chain transparency and efficiency
- Better crop and supply forecasting
- Lower prices for raw inputs



LOGISTICS, PAYMENT, SUPPLIES

- Facilitating payment for garden space
- Green electricity for environmentally friendly growing practices
- Kick-start and insurance co-operative

Seed-to-sale assurance of quality, purity and provenance of agricultural products. Consumers are increasingly demanding better assurances about the quality, purity, source and environmental sustainability of the product they are purchasing. In an increasingly crowded market, the Pavo platform will enable growers and processors to establish and differentiate their brand by drawing upon detailed crop data gathered via blockchain and IoT technologies.

An ecosystem peer review ledger. The cannabis system has historically been underground, often putting otherwise honest participants at risk from less scrupulous actors who don't honor traditional handshake agreements. Pavo enables a blockchain-based Yelp- or eBay-style review system for all ecosystem participants to share ratings and opinions on their dealings with other participants.

Think Amazon reviews for cannabis players: Everyone in the industry wants to know who's safe to deal with? Who pays on time? Who never pays? Who ships on time? Who provides quality products? Who lives up to commitments?

Decreased electricity consumption and minimization of waste leakage. Due to constant control over the condition and composition of the soil and the use of machine learning and artificial intelligence algorithms, the application of nutrients becomes more accurate, which helps to minimize over-application of nutrients and waste that leaks into the environment.

As possible **next steps** of the development of the Pavo platform we anticipate the following:

Forward smart contracting. Blockchain technology enables the creation of smart contracts for pricing and trading future crops, as is currently done with other commodities like wheat, corn and oil. Of course, derivative products, such as options on futures contracts, are possible and likely, further expanding this financial market. Given that a grow operation may produce as many as five crops per year, we anticipate a large potential for trading activity.

Further, we expect that participants in this market will include natural hedgers, such as downstream processors and dispensaries, looking to secure their supply of known-quality product, as well as speculators, who, as in other commodity markets, accept the risk transferred by natural hedgers.

Facilitating payment for garden space. Pavo will enable smart contracts, including possibly revenue participation contracts between growers and landlords, providing security and peace of mind for both parties. This function naturally intersects with the peer review ledger, allowing growers to build “5 star reviews” to burnish their credibility ahead of contract negotiations with landlords.

Green electricity for growers. Pavo will establish itself as a wholesale buyer of electricity, with a preference for renewable sources such as solar, wind and thermal generation. Pavo will re-sell the electricity to growers who pay with PavoCoin (where possible), and establish a marketing program whereby growers who use Pavo-brokered electricity may qualify for a Pavo “green” stamp for their product.



Pavo Technology

Summary

As an integral part of any modern grow operation, the Pavo platform helps optimize operations at all scales (i.e., craft/beginner, mid- sized, industrial). Incremental operational efficiencies are delivered by novel ag-tech capabilities that are based on in-depth scientific knowledge of the plant.

Growers using Pavo can consistently improve crop quality while maximizing crop yield:

- Pavo IoT technology provides a high degree of customization of the platform for the unique characteristics of each grow operation that cannot be gleaned from high level data, such as weather conditions.
- Cloud computing solutions, software automation and IoT technology can help manage light application and electricity consumption, minimizing environmental impact, while blockchain-based payment and supply chain solutions can enable growers to better manage costs for supplies.
- Ubiquitous wireless connectivity can transport data from sensors in the soil or hydroponic baths to cloud-based storage, where it's processed by machine learning and artificial intelligence algorithms to guide growers in the proper application of nutrients to increase yield and assure plant health. This helps to minimize over-application of nutrients and waste that leaks into the environment.

That same technology, which enables tracking for the plants through the entire life cycle, helps industry participants comply with regulations requiring tracking and accounting for all plant material, to ensure crops aren't diverted to the black market.



Pavo Technology

By creating an immutable, decentralized ledger of crop data, blockchain technology can help across the ecosystem in the areas of product provenance, quality and safety; secure payments and refunds, and decreased transaction fees; trustworthiness of ecosystem partners. Pavo automatically stores pertinent data on the blockchain and makes it available to the user through the web browser and smartphone apps.

To take one example, blockchain technology can make agricultural supply chains more transparent, so that consumers know where their product comes from, and whether or not it has passed safety standards set by regulators to protect the health of consumers. Growers, producers and distributors can use blockchain technology to ensure they get paid for shipments, and to generally enforce agreements, typically through smart contracts. Internet-based shared ledger technology, i.e. blockchain, can improve transparency in what has historically been a murky ecosystem.

Historically, cannabis growers have not liked consumers of their product to know where it came from. On the other hand, they'd like to be able to trace back the sources of plant-killing disease outbreaks. As with any consumer product, sustaining the confidence of end-users and other stakeholders is of utmost importance. As the industry comes out of the shadows, growers will undoubtedly want to brand and market their terroir to differentiate their product. Blockchain solutions can underpin consumer confidence by facilitating transparency and traceability, while still allowing for growers to maintain profit margins and trade secrets.

The Pavo cryptocurrency offers industry participants a way to secure trade and business practices amongst themselves, and reduce the dangers associated with dealing strictly in cash.



Pavo Business Model

The cannabis ecosystem is expansive and experiencing rapid growth. The industry is projected to grow in excess of \$23 billion within the next three years, and as high as \$60 billion within ten. The market is highly fragmented and uses traditional payment methods that are expensive, unreliable, unsecure and slow.

Pavo provides an intelligent state-of-the-art IoT blockchain platform for industry participants to manage their business from seed to market. For example, Pavo enables growers to make smarter, faster agricultural and business decisions based on real data.

Pavo's cloud-computing based platform and leading edge IoT technology enables real-time management of gardens, ensuring the highest yield of the highest quality product, while ensuring regulatory compliance, sustainable business practices, and honest, fair play within the cannabis ecosystem and in future in other agriculture sectors.

The platform will also power an online marketplace to enable trade, commerce (e.g. forward crop sales) and professional networking amongst industry participants.

Pavo also provides a private cryptocurrency specifically for the cannabis industry, to alleviate the dangers of dealing in cash. The Pavo coin offers a secure, reliable, safe, payment instrument.

Revenue Model

Pavo intends to generate revenue as follows:

- SaaS subscription fees for the IoT blockchain platform
- Transaction fees for marketplace transactions
- Transaction fees on forward crop sales
- Professional services

All smart contracts on the platform will be executed using tokens. All users need to buy tokens to use the platform, and the crypto-exchange module in the self-service portal will manage conversion of external currencies (and crypto) to tokens and back (and will do so automatically without any effort from users). All prices will be set in fiat currency (and/or cryptocurrency). During each transaction, the actual market token rate will be used automatically to determine the number of tokens to pay as platform fees.

Pavocoin economics

The Pavocoin token is an internal coin on the platform and can be used to:

- Pay the Pavo SaaS subscription (it can also be paid in other currencies, but payment in Pavocoin will be rewarded with a discount of up to 10 percent, and sometimes higher, with additional incentives) and in the future - for other platform fees and payments for services and products
- The only payment method to execute transactions, settlements, and forward contracts between growers, buyers, and other parties
- Voting for incentives distribution and platform policy (e.g. community engagement)
- The only payment method for marketing and advertising services on the platform
- Voting for conflict resolution on the platform, a form of bounty, community support and loyalty program

Growers Drive Demand

To create an evergreen user reward pool, Pavo uses revenue from in-app purchases to buy PAVOs from the market. Coins are then distributed as rewards throughout the Pavo community. Another partner may choose to create an ad-supported platform, where the revenue generated from user attention is used to reward content providers with PAVOs. A third partner may use a subscription model, where the subscription revenue is used to reward contributors with PAVOs (e.g., cannabis magazines, online news).

The Pavo SaaS solution leads the industry in cost effectiveness, providing a high return on investment - from 12 to 20 times, by our informed calculations. Deploying sensors in the garden and setting up a Pavo account for a typical grow site only takes a few days, and the upfront costs are very modest compared to alternatives. In fact, based on our calculations, the average grower can recoup the investment within two years.

The cost of deployment of the Pavo system and the monthly subscription fees depend on the size of the grow space and other parameters of the grow site and are calculated in a custom way for each client. Currently, investment on deployment starts at under USD 10,000 and monthly fees start at USD 2,000, but prices depend on a number of factors and may change with time including the potential decrease of installment prices with a planned upgrade of the system hardware.

Grower Size	Projected Payback Period	Cumulative Five-Year Projected Gross Revenue Lift
"Medium" grower with 10,000 sq. ft. of grow space	< 18 months	14%

To increase the speed of adoption, Pavo will subsidize the cost of the IoT installation for growers and its usage for an initial 12-month period starting with the date of the ICO closing (this policy may change over time). This way, growers get a brand-new Pavo system providing significant value at no cost for one year, a year which makes Pavo's offer extremely appealing. Additional token grants may be awarded based on utilization - rewarding those growers (and distributors) most actively committed to the success of the platform. This solution will help both to expand the Pavo network aggressively and to teach growers to use Pavo coin naturally.



Pavo

- **Initial Coin Offering (ICO) Details**



Initial Coin Offering (ICO) Details

PAVO will be the digital utility token that powers and incentivizes the Pavo user ecosystem and content platform. Pavo intends to be fully transparent in all its financial conduct and transactions. The controlled release of tokens will give Pavo projects and PavoCoin the opportunity to grow and increase in influence based on merit and value creation. Escrowed funds and planned ecosystem industry projects will set Pavo apart from other token-generation events.

200,000,000 tokens will be issued by Pavo. There are currently no plans to generate additional tokens. The initial distribution of tokens will be through a series of offerings in different phases.

PAVO Token Distribution

Allocation	Amount
Pre-sale Tokens	40,000,000
ICO	60,000,000
Team, Partners/Advisors/Contractors	30,000,000
Controlled Reserve Fund	40,000,000
Community Reserve	20,000,000
ICO Incentives and Bounty	5,000,000
Growers Reserve	5,000,000

Initial Coin Offering (ICO) Details



Timeline

04.12-04.26	04.27-06.11	06.12-07.14	07.15-07.21	07.22-07.28
PUBLIC PRESALE PHASE1	PUBLIC PRESALE PHASE2	MAIN SALE	HIDDEN PHASE (incoming wires)	TOKEN DISTRIBUTION

Public Pre-Sale phase

Presale starts on April 12th 2018, 12:00 pm PDT, and runs until June 11th 2018, 12:00 pm PDT

An opportunity to purchase at an incentive rate:
1 Token for USD 1 plus a 33% bonus for \$5,000 purchase and a 45% bonus for \$10,000 purchase during the presale phase 1.

1 Token for USD 1 plus a 33% bonus for \$5,000 purchase during the presale phase 2.

Main Sale, Hidden phase, Token Distribution

Main Sale starts on June 12th 2018, 12:00 pm PDT, and runs until July 14th 2018, 12:00 pm PDT

Hidden Phase starts on July 15th 2018, 12:00 pm PDT, and runs until July 21th 2018, 12:00 pm PDT

Token Distribution starts on July 22th 2018, 12:00 pm PDT, and runs until July 28th 2018, 12:00 pm PDT

Initial Coin Offering (ICO) Details



Timeline

04.12-04.26	04.27-06.11	06.12-07.14	07.15-07.21	07.22-07.28
PUBLIC PRESALE PHASE1	PUBLIC PRESALE PHASE2	MAIN SALE	HIDDEN PHASE (incoming wires)	TOKEN DISTRIBUTION

Initial price of token is \$1

PRESALE PHASE 1	04.12-04.26	1\$ + 45% bonus for 10k\$ purchase OR 33% for 5k\$ purchase
PRESALE PHASE 2	04.27-06.11	33% for 5k\$ purchase
MAIN SALE	06.12-06.16	1\$ + 25% bonus
	06.17-06.23	1\$ + 18% bonus
	06.24-06.30	1\$ + 11% bonus
	07.01-07.07	1\$ + 5% bonus
	07.08-07.14	1\$ No Bonus

Tokens are available for purchase 24/7. All changes to the bonus take effect at 12:00 PDT of the date stated above.

Fiat currency will be accepted during the PAVO Initial Coin Offering (ICO). Major cryptocurrencies will be accepted.

During the Initial Coin Offering (ICO) round, funds will be immediately placed into Pavo’s escrow storage, an offline repository for proceeds in cryptocurrency, and an escrow bank account for proceeds in fiat.

All participants of the ICO must identify themselves to meet minimum Anti-Money Laundering (AML), Counter Terrorism Financing (CTF) and Know Your Customer (KYC) requirements.

Token features and capabilities

Name: PavoCoin, PAVO

Based on: Ethereum

- Safe cryptocurrency transactions.
- Desktop wallets for Mac OS, Windows, and Linux keep cryptocurrency safe while allowing for easy transfers, balance viewing, and simple use.
- Tokens are created with an ERC20 token smart contract.
- Multi-signature accounts implemented in two clicks.

Transparency and Audits

Pavo is committed to a fully transparent process for the ICO, and beyond.

- Founders and team members who own PAVO will be prohibited from liquidating more than 20% of their position within the first calendar year, in order to firmly establish PAVO as a stable, reliable store of value.
- A minimum threshold of USD 1 million in proceeds is required for a successful crowdsale (“Soft Cap”).
- The maximum amount of funds collected during the ICO is set at USD \$65 million (“Hard Cap”), equaling 100 million tokens.
- Assuming the Soft Cap is exceeded, but Hard Cap is not met, any unsold tokens (from the amount allocated for the presale and ICO stages) will be burned. Any funds received after having reached the Hard Cap of 100 million tokens will be returned to the sender.
- Smart contract voting will be leveraged for community approval requirements. The voting may approve the unlocking of the coin reserve, club membership policy changes, and other changes that affect the Pavo community.
- We will engage one of the Big Four accounting companies or another internationally recognized accounting firm for annual third-party audits.

How to Get Pavo Coins

Please register at pavocoin.com to get notified of the opening of the ICO.

Where to Get	Pavocoin.com
How are Transactions Secured?	All transactions will be secured with state-of-the art cryptography, and the blockchain integrity will be protected by CPU- efficient, ASIC- resistant proof of stake, satisfying banking needs for cannabis-related businesses.

Listing on an exchange will only occur if, and when, doing so makes sense for users and will not result in speculation in the token. Tokens may be available for trading in the future when applicable laws permit for such trading, but no assurances can be given that such trading will ever take place.

Initial Coin Offering (ICO) Details



Pavo uses peer-to-peer technology to operate with no central authority. It is truly decentralized and easily facilitates transactions. The network collectively carries out the issuing of Pavo Coins. It works everywhere, anytime, so business can be transacted 24/7 globally anywhere in the world.

Transfers can be made from any major cryptocurrency wallet. The minimum purchase amount using fiat currency is \$1,000, provided that a wire transfer option is available.*

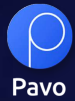
Token buyers must register at pavocoin.com and complete AML/KYC/CTF procedures. After registration, users gain access to their personal accounts at pavocoin.com where they will have separate wallets for all the currencies accepted as payment for Pavocoin. In their accounts, users can choose the desired number of Pavocoin tokens and transfer the required payment in any of the accepted cryptocurrencies or generate an invoice for a wire transfer. Once the payment is received, funds will appear in the corresponding wallet in the user's account and may be used for purchasing tokens**. Until the token purchase is made, the funds may be withdrawn from the account at any moment by sending a request to support@pavocoin.com.

When buying tokens with currency other than USD or cryptocurrency, the exchange rate is fixed at the time of token purchase. To take part in the public presale, a buyer will need to purchase at least the specified minimum number of Pavocoin tokens (\$10,000 worth of tokens). The general token sale has no minimum entrance threshold, except for the minimum transfer amount specified by the relevant blockchain or bank used by the buyer. The fiat-based purchase threshold is \$1,000. After the token purchase is complete, information about Pavocoin tokens credited to the token buyers should appear in their accounts at pavocoin.com immediately.

* Pavo does not charge any processing fees. Processing time and fees are determined by the payment processor. Token holders are responsible for paying all processing fees and financial charges imposed by the payment processor in connection with the payment, including withdrawals from the account at pavocoin.com.

** Tokens are purchased at the price in effect at the time of purchasing, not at the price in effect at the time when funds are sent or received by the platform.

Initial Coin Offering (ICO) Details



After the Pavo token sale is over, Pavocoin tokens will be issued and transferred to the buyers' accounts. Once this step is complete, Pavocoin token holders may at any time transfer their Pavocoin tokens to any third-party ETH wallet supporting ERC-20 standard* or to pay for the services or products.

All proceeds from the Pavocoin ICO will be deposited in escrow where they will be kept in the currency they were purchased in. After the Pavocoin tokens are issued and distributed, proceeds will be released from escrow.

Once the Pavocoin ICO ends, no further deposits to accounts at pavocoin.com will be permitted. Decisions on how to handle funds received after the end of the Pavocoin ICO will be made based on the transfer date and time. Only transfers sent out before the end of the Pavocoin ICO will be accepted; the rest will be returned to sender in the original form of payment minus transfer fees and bank charges. Accepted funds and all other funds remaining in users' personal accounts at pavocoin.com will be converted to Pavocoin tokens automatically at the purchase price in effect at the end of the Pavocoin ICO**. For funds in currencies other than USD, the exchange rate will be fixed at the time of conversion. Users who wish to withdraw their funds from their accounts must contact the support team at support@pavocoin.com no later than 12:00 PM PDT on June 1, 2018 to avoid automatic conversion.

By June 15, 2018, Pavocoin tokens will be issued to participants and deposited in their accounts on pavocoin.com.

If a payment is received after 12:00 pm PDT on May 31, 2018, the payment will be returned to sender minus transfer fees and bank charges even if it was sent before the end of Pavocoin ICO.

* With the exception of the tokens frozen according to the terms of acquiring (team tokens and others).

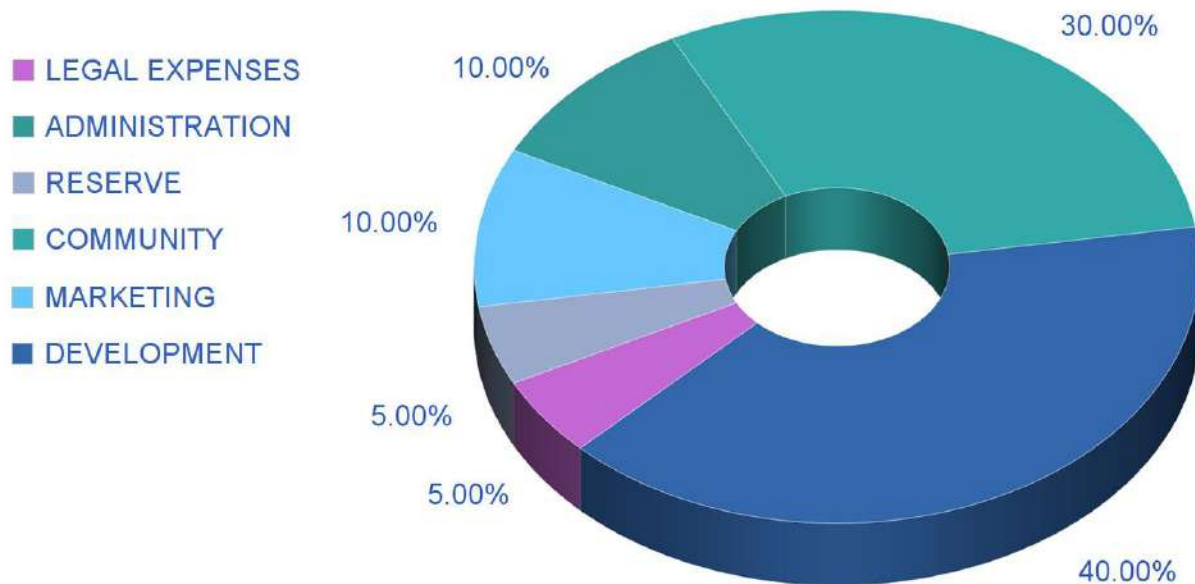
**Unless the hard cap is reached. In this case funds remaining in users' personal accounts at pavocoin.com will be returned to sender in the original form of payment minus transfer fees and bank charges.



Use of Funds

Pavo is committed to the cryptocurrency community. We also do not want our token generation event sale to affect the Bitcoin price. To that end, we plan to exercise caution as we convert the token generation event proceeds to fiat currency to pay for expenses.

The conversion of the token generation event proceeds will be staged and distributed over time and through multiple cryptocurrencies and exchanges. This may dilute any impact that volume transactions might make on either PAVO or other cryptocurrencies in the





Pavo Roadmap

Q2 2017 Start development of Pavo application

Q3 2017 Deployment of POC Sensors and initial Data Baseline creation

Pavo genesis - initial data gathering, Pavo data scientists start creating control-guide structures, reports and the first version of the web dashboard.

Q1 2018 Deployment of Pavo IOT Gateway First Generation

Deployment of second-generation Pavo Sensors
Improvement of metrics, frequency of samples, data volume

Q2 2018 Launch of Pavocoin and ERC20 P2P smart contracts

Subscription fees for the Pavo platform can be paid in tokens and support for B2B smart contract use cases facilitating legal transactions between known parties.

Q3 2018 Pavo Platform with hyperledger Beta

All the info about the growing cycle now gets stored in the blockchain; an essential step to enable the platform to confirm and put Pavo-certified products in the marketplace

Q4 2018 Pavo IOT gateway Gen 2.

Deployment of third-generation Sensors

Smaller sensors with increased battery life, introduction of NDVI* and Automation + Orchestration capabilities.

Q1 2019 Launch Pavo Platform with hyperledger

*Full production version, API and SDKs**, certification is now available*

Q2 2019 Launch of Pavo Marketplace

Market place, ERC20 smart contract interface, mobile and in-browser application development. Chatbot and QR Code settlement system.
Pavo-certified products

Q3 2019 Pavo IOT 2.0 IOT Gateway Gen 3, self provisioning sensors

Automation and orchestration version 2. *Full edge device IOT Gateway with the ability to deploy and manage applications in real time.*

* NDVI (Normalized Difference Vegetation Index) is an indicator of plant health, and can be checked using infrared sensors.

** SDK is a software development kit.

Pavo will also work and partner with other vendors and organizations in the industry to help unite people around the world who are committed to high-quality products and regulatory compliance.

We expect to play a vital role in the community, which will strengthen all stakeholders and will positively influence the demand for and the value of Pavo's cryptocurrency, PavoCoin (PAVO).

Finally, Pavo will actively support and fund blockchain innovation in the cannabis field, such that it increases the use and importance of PAVO.

Pavo's operational model is focused on providing the capabilities for growers to optimize efficiency, deliver high-quality product and establish strong consumer brands. Each capability is geared to improve the whole.

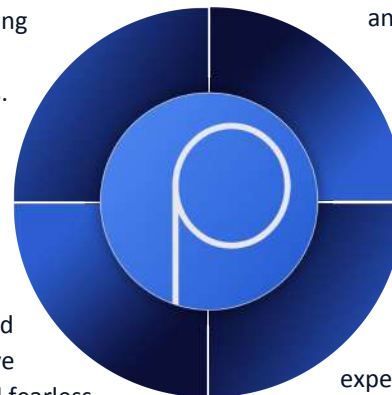
PAVO Value Chain Framework

Grower/Cultivator

The main function of the field cultivator is to manage the garden. In simple terms, that means controlling weeds, mixing soil, and adding water and nutrients.

Innovator

Creates new products based on data science and creative experience. Tech savvy and fearless to try new methodologies of product development.



Retail/Distribution

Distributors are the channel for getting products from producers and cultivators to testing labs and dispensaries for retail sale.

Producer

Federal Scheduling inhibit innovation and experimentation. Only producers who transition to centralisation through the use of new technology will survive and flourish.



Pavo

- **The Pavo Team**

The Pavo team is uniquely positioned to take on this challenge. Our team is comprised of experienced entrepreneurs who bring in-depth know-how across the dimensions of business, IoT technology, software, blockchain, and the agriculture industry (including cannabis particularly). The Pavo network and team shares the same spirit in which cryptocurrencies and tokens were originally envisioned: transparency, fairness, accessibility, and innovation.

In launching the Pavo ecosystem, the Pavo team is pioneering unprecedented operational visibility and control via an IoT platform and an ecosystem powering a decentralized economy. The Ag-Tech industry (and above all the cannabis ecosystem) will benefit from Pavo's IoT platform, helping transform the practices of thousands of creative growers that produce higher-quality products with greater yield throughout the industry.

By adopting the Pavo platform, all network participants – consumers, growers, innovators, producers, suppliers and others – will be aligned on the long-term growth of the network. The combination of a community of users actively engaged in earning and spending the Pavocoin and a large reward pool for third-party participants who enhance it with new use cases provides a strong foundation for the future development of PAVO.

The Pavocoin is being developed by Pavocoin AG, based in Zug, Switzerland. The Pavo team consists of members who have successfully collaborated with one or more team members on previously successful business endeavors. The founders are Allan Young and Erhan Cakmak.

Allan has successfully operated two of the San Francisco Bay Area's larger incubators, Runway and Topline, which have been home to hundreds of early-stage technology startups and post-revenue startups.

Erhan, a former GE and Aspect executive, co-founded and led, as president, the successful contact center SaaS company Bright Pattern. Most recently, he was Chief Operating Officer heading international expansion for the San Jose-based IoT software company N3N, Inc., a Cisco Investments portfolio company. He also is Co-founder and Chairman of Agrotics, an Ag-Tech IoT company.

The core team also includes Mike Booker, Shawn Lucas, Ari Gorman, Dave Dabbah, David Howard and Mehmet Coka, who bring several decades of combined experience in software development, disruptive financing solutions, innovative IoT Platforms and agricultural and cannabis cultivation experience. The Pavo team possesses all the necessary knowledge and skills to continue building a powerful IoT platform to transform the Ag-Tech industry and help it flourish.

We embrace token-generation events (TGE) as a path to expedite growth capital and mass distribution for cutting-edge business models. At the same time, we respect the value attributes of traditional venture capital investors that provide connections and advisory expertise. Our team is unique because we are approaching the token generation event with extensive venture capital expertise that most blockchain start-ups forfeit through the initial coin offering process. Several of our team members have deep and wide venture capital and private equity experience, which gives us an advantage over any eventual competitors. We believe this access and expertise is critical for the success of the Pavo ecosystem.



The Pavo Team Founding



Allan Young
Co-founder and
Vice-chairman

Allan Young has a unique ability to recognize potential in obscure opportunities and bring them to realization both from an investment and management point of view. He founded Runway Incubator, one of the largest technology incubators in the San Francisco Bay Area and Silicon Valley. Before incubating high-growth emerging technology companies, he co-founded a technology startup backed by Y Combinator. Allan also brings relevant experience in private equity, having been a venture partner and analyst in private equity firms such as Sorensen Capital, and in blockchain consulting and advising several blockchain and crypto companies. He began his career as a founding associate at the University Venture Fund, a student-run fund that achieved 4 IPOs.



Erhan Cakmak
CEO and
Co-founder

Erhan has more than 25 years of executive management experience. Most recently, as COO of N3N he oversaw the expansion of the IoT company into the US market. At GE, he was Director of Central Europe. He also built several enterprise software companies, including Aspect and Bright Pattern. At Aspect Software, as General Manager he built Europe & South Africa, except the UK from scratch to a \$100M business. He holds a master's degree in economics from Bergische University in Germany and has completed the Stanford University executive program and the distinctive GE Crotonville Academy program.



The Pavo Team



Ari Gorman
CTO

Ari has more than 20 years of experience in telecommunications and has held CTO and leadership positions at technology companies with a focus on voice- and video-over-IP network and application delivery. Prior to joining Pavo, Ari was a co-founder and CTO of NovaTel Networks, where he spent the past 16 years. Ari was responsible for network and software planning, design, development, deployment, integration and management of the NovaTel network and infrastructure. Ari's expertise earned him and NovaTel recognition, evidenced in the multiple collaborations and partnerships with other industry leaders.



Dave Dabbah
CMO

Dave has been a marketing, operations, and business executive for over 15 years, working with public companies and startups in both B2B and B2C markets. He has launched and successfully grown several startups including Emallabs, Lyris, Ephox and SoundCloud. Dave is an expert at branding and strategic market placement, analytics, public relations, social media marketing, growth strategies, business operations and management, and leadership development. Using this skillset, Dave has helped more than 10 Silicon Valley companies establish, position, and grow their brands.



The Pavo Team



Atakan Cetinsoy

VP product
management

Atakan has been involved in hi-tech product management and product marketing for over 20 years, dealing with global brands and VC-funded startups including Apple, Yahoo!, Fedex, Strands and Deem. Atakan has regularly developed, launched and successfully commercialized software products in SaaS, machine learning, FinTech, B2B travel, and digital media. Atakan specializes in effectively integrating data science into product portfolios, go-to-market planning, and solving complex business problems in a globally scalable manner. Atakan holds an MBA from the University of Georgia's Terry College of Business.



David Howard

VP Corporate
Strategy

David has 20 years of Silicon Valley marketing experience in telecom, hardware, software, IoT, and SaaS. Prior to joining Pavo he worked for and collaborated with Erhan Cakmak on marketing, business partnerships and operations. David also worked for Salesforce in the Analytics business unit, and at the data visualization industry leader Platfora. Prior to this David had tenures with Bell Canada, Alcatel S.A, and Cisco Systems. David has completed the University of California Berkeley Haas School of Business' Venture Capital executive and HAAS Berkeley executive programs.



The Pavo Team



Basir Momand
IT & Sensor
engineering

Basir has been involved in software development, VoIP and infrastructure planning, call center technology, IT and tech support for 30 years. Before Pavo, he served as call center general manager and IT and support infrastructure director of CallSocket LP. Basir was the CTO at Alliance Financial, after serving as the director of customer service for the Global Investment Group. He also led the senior technical worldwide support engineer/telecommunications team at Siemens-Munich and at Aspect. Basir has a B.S. in computer science from San Jose State University.



Mike Booker
Chef Cultivator

Mike has been cultivating high-quality organic medical cannabis for nearly 10 years. A member of the California Growers Association, Mike is an advocate for US federal cannabis legalization. Witnessing firsthand the complications and side-effects of conventional cancer treatments, he is also a supporter of advancing scientific cannabis research. Mike studied biological science at California State University Long Beach and at San Jose State University.



Advisory Team



Jeff Burton

Co-founder
Electronic Arts (EA)
and strategic
advisor BitDegree

Jeff is a Co-Founder of Electronic Arts (EA), CardSmith, License to Mail, and is a strategic advisor at BitDegree, the first online education platform on blockchain. He recently served as the Executive Director at SkyDeck Berkeley, an interdisciplinary startup accelerator. As a serial entrepreneur and builder of global enterprises, Jeff believes that technology and multicultural exchange fosters a problem solving and business growth environment capable of producing sustainable global socioeconomic benefits. Jeff has over 35 years of entrepreneurial experience in the Silicon Valley and Europe.



Keith Teare

Executive Chairman at
Accelerated Digital
Ventures

Executive Chairman and Chair of the Investment Committee at Accelerated Digital Ventures, a UK Venture Company. Previously was a founder and a partner at Archimedes Labs in Palo Alto, California. Two of Keith's companies were "unicorns" – valued by others at more than \$1 billion.



Advisory Team



Nick Evdokimov
Founder of ICO box

Nick is the founder of ICOBox, founder and former CEO at AppinTop, and an entrepreneur with vast experience developing innovative blockchain projects and scaling up digital marketing processes. As a product developer and internet entrepreneur for the last 15 years, Nick has developed several other digital marketing and blockchain products. Arriving in the blockchain sector in 2014, Nick has been involved with developing cryptocurrency mining assets, including facilities and capabilities. Currently focusing on ICO technology, ICOBox has completed more than 40 ICOs under Nick's guidance.



Keith Spears
CEO at Heritage
Impact Partners

Keith Spears is an expert at private and venture equity investments, mergers & acquisitions and new business ventures. Keith worked on alternative investments as a member of Hamilton Lane that has over \$359 billion under management. Keith has worked on over 100 transactions and investments in the range of \$1 million to well over \$10 billion in size. Keith is Head of Private Equity at First Capital. He was also formerly a Managing Director of Transom Capital Group, a private equity firm with over \$130 million in assets under management. He was formerly one of the founders of Legacy Equity Advisors, a co-invest advisory firm which advised on \$45 million in assets. Prior to Hamilton Lane, Mr. Spears was a General Partner in an emerging manager fund-of-funds firm established in partnership with WestLB private equity group, which raised \$125 million. Keith is also a former investment banker at Goldman Sachs and Credit Suisse First Boston.



Advisory Team



Andrey Mow

ICO advisor and consultant,
Partner at Transmosis and
CoinFabric

Andrew is an entrepreneur, investor, and early stage startup advisor with a wealth of knowledge about the fast-paced industry. He has worked for over 15 years in business development and consulting for both enterprise and startup companies in the security, AgTech, IoT, blockchain, and eSports industry. Currently advising numerous blockchain token offerings, Andrew brings a global network of security experts, crypto gurus, institutional finance professionals, and engineers to the table. Andrew has a BS in information management systems from the University of Illinois.



Andrey Verbitsky

Blockchain Guru

Blockchain, token design and economics guru. Helping companies to tokenize their businesses. Designed over 30 tokens. Product and UX pro. Behavioral economics dabbler. Launched multiple successful products on multiple platforms. Idea-to-product-to-revenue.



Advisory Team



Kash Abbasi

Sr. Director Global IoT
Partnerships
at Cisco

An innovative and results-driven leader focused on achieving exceptional results in highly complex environments that demand continuous improvement through strong collaboration. Built strong skills at strategy, planning, business creation and execution, delivering results. Solid and extensive experience across sales, go-to-market, operations, services, channels, software and cloud. Excels at business partnering with executives, with a strong ability to drive transformation.



Hakan Ancin (PhD)

VP Application
Performance at SAP

Results-oriented, hands-on technical executive focused on delivering high-quality products. Demonstrated ability to develop and communicate an architectural vision and translate that vision into working software products.



Advisory Team



Bill Banks
Piedmont Partners
Group Ventures

Bill Banks has 25 years of senior management, consulting, and entrepreneurial experience across a range of financial technology, data, software and financial services firms, with a diverse background in finance, investments, wealth management, business strategy and operations. Bill is currently a Senior Consultant with Rein ventures, and a Venture Partner with Piedmont Partners Group Ventures, a private equity firm in the Bay Area. Prior roles include COO and CFO of a disruptive fintech company MeasureOne, EVP of leading financial software and technology firm Junxure, Managing Director at Harvest Capital Strategies, a \$2B alternative asset management firm, President of Panel Intelligence, a primary market-research firm for institutional investors and healthcare companies, and President of MCF Wealth Management, an investment advisory platform.



Steve Olson
Early Growth
Financial Services

Financial exec with 25+ years of executive-level management experience within technology-focused organizations. Successfully built organizations, processes, and infrastructure to support aggressive domestic and international expansion for startups in high-growth environments. Strategic perspective combined with strong finance, accounting, operations, administration, and technology backgrounds. Effective business strategy and execution skills.



Advisory Team



Osman Yağan
(PhD)

Research Professor
at Carnegie Mellon
University

Osman is a Research Professor of Electrical and Computer Engineering (ECE) at Carnegie Mellon University (CMU). Prior to joining the faculty of the ECE department in August 2013, he was a Postdoctoral Research Fellow in CyLab at CMU. He has also held a visiting Postdoctoral Scholar position at Arizona State University during Fall 2011.

Dr. Yağan research interests are in modeling, design, and performance evaluation of engineering systems, with particular emphasis on communication systems and networks. Specific research topics include wireless communications, security, random graphs, social and information networks, and cyber-physical systems. Dr. Yağan is a Senior Member of IEEE and has served as a Technical Program Committee member of several international conferences including IEEE Globecom, PIMRC, ICC, and WiOpt.



Darwin Farrow
Data Analytics
Expert

Darwin has a stellar track record building cross-functional teams that deliver results, most recently at Akila Digital, as the Head of Data Science, and prior to that, as Senior Manager of Analytics for Skype.



Advisory Team



Mehmet Coka

Founder at Agrotics,
Agriculture Expert

Mehmet Coka is the founder of Agrotics, Inc. an IoT and analytics platform for the agriculture industry. At Agrotics, Mehmet is responsible for the implementation and development of the IoT platform, the application, and the agricultural development for maximizing crop quality and operational efficiency.



Ekrem Buyukkaya

Developer & Designer

Born a developer. Writing code since the 4th grade, his family grows apricots, and he has a passion to help farmers and agricultural ventures. Ekrem is a top APP/web developer, still with a great passion for coding. Studied at Ozyegin University.



Advisory Team



Véronique Trausch

Partner, Findeal
Advisors

In a career spanning over 30 years, Véronique Trausch held senior management positions at Citibank, Banque de Luxembourg and BNYanalytics, in the US, United Kingdom, Germany and Luxembourg. Véronique's particular expertise is in fundraising in mainstream asset classes as well as in alternative asset classes and real estate using her corporate finance and distribution experience.



Daria Generalova

ICOBox Founder

ICOBox co-founder and a marketing, PR & communications specialist with 10+ years of experience. Having joined blockchain industry nearly two years ago, worked as a consultant to Argon Group and helped launch ICO platform Cryptonomos. Speaker at numerous international conferences in fintech and blockchain, including Money2020, Consensus, CoinAgenda in the US, World Blockchain Forum in London, Blockchain Labo in Tokyo, and others.



Advisory Team



Evan Horowitz
ICO Advisor

Technology Founder, Entrepreneur and Investor based at Runway Incubator in the Twitter Building. Being the CEO and Co-Founder at WeedClub.com Platform, the @420 Pitch and @420 on Twitter gives me a unique eco-system to play in. The blockchain will cut out all of the creepy mainstream service provider middlemen that plague the cannabis industry, so WeedClub is going all in!



Michael Landau
Co-Founder and CTO
of WeedClub

Michael is an Attorney, Engineer, and the CTO of WeedClub.com. Michael studied Computer Science & Economics at the University of California, Berkeley, and has a J.D. from Hastings College of the Law. He has more than 20 years' experience developing web & mobile applications, and is a member of the California Bar Association.



Advisory Team



Nichole West

Director of
Business
Development,
COWA Science

Currently Nichole is a managing partner of Inclusive Cannabis (www.inclusivecannabis.com) a full service cannabis marketing company, the Director of Business Development of COWA Science (www.COWAScience.com), a cannabis business supply chain business that focuses on efficiencies and streamlined procedures, and serves as a Senior Partner of a private equity investment firm that has a focus on the cannabis industry.



Alex Moskovsky

CEO at ICOBox

Expert Internet entrepreneur with over seven years of experience. Founder, CEO and Chairman of the Board of numerous successful social media platforms and projects. Created SaaS solutions for social media marketing. Specializes in process automation in finance, fintech, and digital marketing. First got interested in blockchain in November 2015, urged on by the founders of several major startups he met at a fintech conference in Hong Kong.

The founders and the Board of Directors of Pavocoin will be responsible for the efficient use of funds resulting from any sale of tokens from the Pavo reserve. Some elements of the platform will remain centralized until decentralized options become feasible or desirable. The Pavo foundation will be responsible for allocating Partner Rewards to platforms or apps in the ecosystem, creating developer extensions that provide visibility to the use of apps within the ecosystem (such as reporting on and visualization of activity), evangelizing the Pavo ecosystem to innovators, cultivators and app developers and content partners, bringing promising and diverse platforms and apps into the ecosystem, and more. Over time, Pavo will consider moving to a decentralized governance system such as those presented by others in the cryptocurrency community. Through our advisors we are connected to the ICO Governance Foundation, and intend to work with that organization closely.



Summary and Outlook

Blockchain-enabled applications are increasingly playing an important role in solving many agriculture-related problems.

For example, the United Nations predicts that by 2050, the world's population will reach 9.1 billion, some 20 percent higher than today. Most of this population increase will occur in developing countries. Urbanization will continue at an accelerated pace, and about 70 percent of the world's population will be urban (compared to roughly half today). To feed this larger, more urban and richer population, food production must increase by 70 percent. Annual cereal production will need to rise to about 3 billion tonnes from 2.1 billion today to support population growth. Sadly, the rate of growth in yields of the major cereal crops has been steadily declining; it dropped from 3.2 percent per year in 1960 to 1.5 percent in 2000.

In developing countries, 80 percent of the necessary production increases are expected to come from increases in yields and cropping intensity and only 20 percent from expansion of arable land.

Furthermore, the pervasive inefficiency of food supply chains in developing nations is largely due to information asymmetry and power imbalances. Farmers often wait weeks or months for payment after delivery, forcing them to deal with large incumbents, who have market power, and the ability to drive down prices. This directly translates to lower income for farmers, as they do not receive their fair share, despite being, as the food producers, the most important part of the chain.



Summary and Outlook

Indoor Farming

Indoor farming, globally, can help increase total caloric output, but requires careful management of water and energy - resources that are already scarce - to succeed.

Pavo's solution is transformative technology with the potential for dramatically changing the agricultural economy. It is directly applicable to any indoor crop, from cannabis to cucumbers, from strawberries to spinach. Automated data collection and analysis fuels the ability to better manage crop inputs, like water and energy, and corresponding automation of indoor farming operations.

IoT-blockchain solutions will save time and money for farmers, and increase yields. And, despite a common belief that farmers are slow to adapt, they have always been eager, and early, adopters of technologies that make sense and deliver genuine value.

At Pavo, our goal is to create a new agricultural model that paves the way for the next, digital, generation of indoor agriculture and transform the entire agricultural industry. Data democratization of the food chain will increase efficiencies, reduce waste, and increasingly transfer remuneration to the stakeholders delivering the greatest value.

Pavo will transform farming, and farmers, by integrating, firstly, indoor farms via the Internet of Things and blockchain technology, creating a model for highly efficient, democratized, agricultural economies around the world.



Summary and Outlook

From Information Technology to Internet of Things + Blockchain

Information technology has long been applied in farming to increase topline revenue for farmers, and provide other operational efficiencies. Communications technology has operated as a separate component to transfer data.

Now, Pavo's IoT-blockchain solution unifies the centralizing force of communications technology with the decentralizing force of information technology.

A single solution collects data from the soil and air where the crop is grown, secures it with immutable blockchain technology, securely transports it across communications channels, safely stores it, and provides robust analysis and presentation for the farmer to take action, and profit from.

Blockchain Redefining Agricultural Trust

An inherent feature of blockchain technology is its redefinition of "trust." Under an Information Technology paradigm, agricultural environmental, regulatory and crop data is stored on centralized computer servers, and managed by administrators trusted, and obligated, to maintain data integrity, security and access authorization.

Centralized data administration is a source of risk – crop safety and quality data can more easily be corrupted. Data is more easily lost due to failed or absent backups. Centralized administrators may act on their own agendas, with their own interests in mind, impacting decisions related to data access and security.



Summary and Outlook

Applying blockchain technology to crop data ensures that information about our food, and its sources, is incorruptible. Blockchain and IoT technology simplifies data management throughout the complex system of farmers, brokers, distributors, processors, retailers, regulators, and consumers; information on the food we eat becomes simplified and transparent. Consumers can enjoy greater trust in the food they put on their table and consume, and regulatory agencies have greater confidence in the data reported to them.

Blockchain redefines trust across the agriculture spectrum with arm's length, cryptographic, security, eliminating notions of Hobbesian pursuits of self-interest on the part of data administrators, or other, nefarious, actors.

Pavo's IoT-blockchain solution provides a framework for institutions across the globe to redefine the relationship between government, corporations, enterprises and farmers and the citizens in terms of data sharing, transparency and trust.



Summary and Outlook

Precision Farming with Data Integrity

Classic centralized field management platforms that endeavor to provide data-driven insights are vulnerable as a single point of failure if hacked. Pavo's solution, with its crypto-economic security features work to ensure that data and technological infrastructure such as a national level distributed databases conforming to international agricultural standards and naming conventions remain impenetrable to attackers.

Data remains unsecured with classic platforms, even as they attempt to improve traceability and validate compliance with international standards. Integrating this legacy technology Pavo's IoT-blockchain infrastructure can ensure immutability of this unsecured data.

Pavo's platform help to create productive, less resource dependent, indoor grow operations and can provide critical analytical insights into the grow-cycles of plants. This is precision farming at a new level. For example, a farmer using indoor hydroponics and a closed loop system, with Pavo, may be able to reduce with water usage by up to 90 percent. Increasingly, global food demands will be met by crops grown indoors, in environments more efficient and more controlled than the outdoors.

By moving plants indoors, traditional dependence on the weather can be eliminated. Pavo will enable climate control within the container – be it a greenhouse or growhouse – creating ideal artificial growing environments as well as nurturing the wellbeing of the plants. With sensor arrays, the plants can “communicate” precisely what they need, twenty-four hours per day, seven days a week, 365 days a year.



Summary and Outlook

Cryptocurrency Enabling Better Financing and Liquidity

Agriculture is a \$5.5 trillion-dollar global business, employing over a billion people. Trillions of dollars are moving across the supply chain, but transactions are inefficient

For many smallholder farmers in developing countries, affordable access to capital remains a huge challenge. Mobile telephones have become ubiquitous, enabling micro-financing opportunities for small farmers. However, low transparency, which translates to higher risk, results in high transactions fees.

Pavo's platform and cryptocurrency addresses this problem for financiers and farmers alike. The borderless nature of blockchain-built currencies can improve the settlement process for everyone in the global, trans-national, supply chain, including farmers, buyers and banks. The low cost facilitates even cost-effective transactions for the smallest farmers in developing countries.

Blockchain enables real-time payments, concurrent with delivery, and better visibility to buyers, leveling the playing field for farmers. Farmers get paid sooner, and increased competition for their crops raises prices.

Absent blockchain, tax and other levy collectors and research organizations have no access to data provenance information: they receive their payments but cannot connect the money to the farmer who has paid. And, financing options are both costly and limited because the industry is perceived as risky — and for good reason, as there are many insolvencies.

Pavo's IoT Blockchain platform can change all of this by enabling real-time payment on delivery. Consequently, farmers get paid immediately, industry competition increases and keeps prices higher, and buyers save time and money.

Finally, adding transparency, trust, and efficiency to settlements can decrease risk and open the door to new financing vehicles for farmers and banks.



Summary and Outlook

Conclusion

The agricultural industry is likely to see increasing global exchange through the adoption of digital products and currency., and blockchain-enabled Internet of Things solutions. This may affect everyone from rural farmers selling to consumers across the globe, to large nations tracking their aid relief. This could lead to fairer distribution of goods and currency amongst some of the poorest regions of the world, as well as increasing community-based agricultural models on a global scale.

This innovative technology simplifies data management throughout the complex system of farmers, brokers, distributors, processors, retailers, regulators, and consumers; information on the food we eat becomes simplified and transparent.

Improved data sharing about our food can also minimize the trillion-dollar problem of wasted food, increasing the total supply to serve a rapidly growing population. Increasingly, farmers, wholesalers, banks and consumers, will access data accumulated throughout the agriculture supply chain.

Pavo provides an IoT- blockchain solution for the agriculture ecosystem, enabling all participants to accept digital currency payments directly from their customers, suppliers and partners for their respective needs.

Legal Considerations, Risks and Disclaimer

This whitepaper is non-binding in all respects and does not create any legal obligation of any kind on any person. The final implementation of the Pavo (PAVO) ecosystem is dependent upon several factors and risks outside of the control of Pavo including regulatory risks, contributor participation, the adoption of blockchain technology and the continued use and adoption of the Ethereum network. Nothing in this whitepaper or otherwise shall require Pavo to take any steps to develop or otherwise implement the PAVO ecosystem.

Pavo reserves the right to abandon the PAVO ecosystem and/or to change the implementation of the PAVO ecosystem contemplated by this whitepaper at any time and for any reason.

Prospective users of the PAVO ecosystem and other participants in the PAVO ecosystem are advised to participate at their own risk and without reliance on any statement contained in this whitepaper.

Before making use of this white paper, users should read all information available on the website(s) of Pavo (the “Company”) located at www.pavocoin.com (the “Website”).

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The PavoCoin (“PAVO”) IS NOT A SECURITY OF ANY KIND. NO EQUITY, INTERESTS OR DIVIDENDS WILL EVER BE DISTRIBUTED OR ASSIGNED TO PAVOCoin (PAVO) HOLDERS FROM THE COMPANY.

PAVO is a digital token for participation and use in the Pavo network and ecosystem and does not confer ownership of a stake in a business. The coin is to be used by the participants of the ecosystem, their respective Partners, Users and consumers of the ecosystem. While the Blockchain construct may potentially be attractive to regulators due to increased transaction security and reduced risk of manipulation, this new technology gives rise to legal and regulatory challenges that regulators are grappling to understand.

USERS ARE NOT ELIGIBLE AND ARE NOT TO PURCHASE PAVO IF THEY ARE A CITIZEN OR RESIDENT (TAX OR OTHERWISE) OF ANY COUNTRY OR TERRITORY WHERE TRANSACTIONS WITH DIGITAL TOKENS AND/OR DIGITAL CURRENCIES ARE PROHIBITED OR IN ANY OTHER MANNER RESTRICTED BY APPLICABLE LAWS. "PERSON" IS GENERALLY DEFINED AS A NATURAL PERSON RESIDING IN THE RELEVANT STATE OR ANY ENTITY ORGANIZED OR INCORPORATED UNDER THE LAWS OF THE RELEVANT STATE. PURCHASED PAVO CANNOT BE OFFERED OR DISTRIBUTED AS WELL AS CANNOT BE RESOLD OR OTHERWISE ALIENATED BY THEIR HOLDERS TO MENTIONED PERSONS ("RESTRICTED PERSON"). IN PARTICULAR (BUT NOT LIMITING THE GENERALITY OF THE ABOVE), PAVO ARE NOT PUBLICLY OFFERED TO U.S. CITIZENS OR U.S. PERSONS (HAS THE MEANING IN 26 U.S. SECTION 7701(A)(30)), OR TO CITIZENS OR PERSONS FROM BOSNIA AND HERZEGOVINA, PEOPLE'S REPUBLIC OF CHINA, DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA (DPRK), ETHIOPIA, IRAN, IRAQ, SRI LANKA, SYRIA, TRINIDAD AND TOBAGO, TUNISIA, VANUATU, YEMEN, OR TO ANY OTHER CITIZENS OR PERSONS FROM A JURISDICTION, IN WHICH IT IS IMPERMISSIBLE OR RESTRICTED TO OFFER, DISTRIBUTE, PURCHASE, SELL OR RETAIN CRYPTOGRAPHIC TOKENS.

The recipient of PAVO must have sufficient knowledge and experience in business and financial matters to be able to evaluate the risks and merits of PAVO token purchases and is able to bear the risks thereof. You shall thoroughly and carefully consider and evaluate each of the risk factors and all other information contained in the Terms before deciding to participate in the PavoCoin Token Generation Event (the “TGE”). To the best of Pavo’s knowledge and belief, all risk factors which are material to you in making an informed judgment to participate in the TGE have been set in the Terms. If any of these considerations, uncertainties or material risks develop into actual events, the business, financial position and/or results of operations of Pavo and the maintenance and level of usage of the PAVO platform and the PAVO tokens could be materially and adversely affected. In such cases, the trading price of PAVO tokens (in the case where they are listed on a cryptocurrency exchange) could decline due to any of these considerations, uncertainties or material risks, and you may lose all or part of the value of your PAVO token.



Glossary of Terms

AML – anti-money laundering

Bud rot – a type of mold that starts on the inside of the stem of the cannabis bud and spreads outward.

Counter-terrorist financing – a set of laws and regulations intended to reign in the financing of terrorist activity.

Cultivator – one of multiple terms for the horticulturalist who manages a cannabis garden and who is responsible for delivering the crop.

Dispensary – a retail store where cannabis and cannabis products are sold to end users, i.e. consumers.

Garden – the space where cannabis plants are seeded, sprouted, grown and matured until harvest.

Grower – generally, in this document, the term “grower” is used to refer to the enterprise that is literally growing cannabis plants. Like any business, the enterprise may have different roles, such as a compliance officer, and a person holding the title of “grower” who is the horticulturist managing the garden. (That person may also hold the title of “cultivator.”)

GrowScore – a system-assigned normalized score that sums up the overall health of a specific set of cannabis plants in a given garden.



Glossary of Terms

Moles per joule – a measure of the amount of light a fixture produces for each unit of energy consumed. 1 mole is equal to $6.02214179 \times 10^{23}$ photons. 1 joule represents the work required to produce one watt of power for one second, or one "watt-second." Growers evaluate indoor light fixtures by this metric to ensure electrical efficiency in their gardens.

Infused Product Manufacturer – an enterprise that takes wholesale raw cannabis product and transforms it into consumer products such as edibles, lotions, oils, lubricants, lip balms, toothpaste, and so on.

ICO – Initial Coin Offering. The initial sale of a blockchain-based cryptocurrency.

IoT – Internet of Things. A communications network that gathers and processes data from a widely diverse and distributed set of sensors, devices and equipment.

IPM – Integrated Pest Management is an ecosystem-based strategy that focuses on long-term prevention of pests or their damage through a combination of techniques such as biological control, habitat manipulation, modification of cultural practices, and use of resistant varieties.

Know Your Customer requirements – guidelines for the financial industry intended to prevent criminal money laundering by having institutions understand the source of their customers' funds.

PAVO – the shorthand name for the Pavo cryptocurrency.

Pavo – the IoT software platform for the cannabis industry.

PavoCoin – the name for the Pavo cryptocurrency.



Glossary of Terms

Pavocoin AG – the name for the Pavo corporate entity.

Photosynthesis – the process of capturing light energy and converting it to sugar energy, in the presence of chlorophyll using carbon dioxide and water.

Processor – an enterprise that performs the intermediary role of transforming raw cannabis product into another form before it is distributed to consumers (see also Infused Product Manufacturer).

Respiration – The process of metabolizing sugars to yield energy for growth, reproduction and other processes.

Root rot – a fungus that attacks the roots of the cannabis plant.

Transpiration – water loss, primarily from the leaves of the plant.

Token Generation Event (TGE) – the launch of a new cryptocurrency.

Vapor Pressure Deficit (VPD) – the difference between the amount of water vapor that the atmosphere is able to retain (which depends on the temperature) and the amount of water vapor contained in it (relative humidity). Measured in kilopascals (kPa).

Yield per light – a rule of thumb measure used by growers, referring to pounds of finished product produced in a harvest per light fixture in the garden.