Holons Tokens ~ DLT AI & Exchange & Bank Credit$ Hybrids Network Project

Holons

Abstract

Holons Tokens ~ DLT AI & Bank Credit$ Hybrids Network Project combines the utility of medical devices connected within a network and Bank Credit$ Hybrid financial institutions, with the purpose to facilitate synchronous data collection from distant measurement stations and cultivate online collaboration and community based research, where researchers benefit from vast community knowledge and share discussions about the experiments. One of the key elements of Holons Tokens Hybrid are the AI cloud computations that are designed to bring forth personalized treatments from data collectively gathered on the Tron Network.

Holons Tokens ~ DLT AI & Bank Credit$ Hybrids Network Project is a part, or holon, within Holon Consciousness Project, a large~scale organization that incorporates human and network activities to establish research and social consciousness through means such as the Internet. It is realized through knowledge and information distribution together with algorithmic database analysis, involving both the data obtained from research collaboration and the associated interactions that propagate through the network.

Holons Tokens Hybrid's purpose is to develop an infrastructure for network enabled research using medical devices (EEG, MEG, MRI) within the Holon Club and function as a payment method for the activities within the network. It combines tokenized payments for commissioning research in facilities that joined the network as well as transactions for the resulting research data.

Relations between these three elements that build Tron Holons Tokens with their flows and interactions are illustrated in the diagram below.

Keywords: Bank Credits Hybrid, DLT AI Hybrid, Internet of Things (IoT), Software, Predictive Analysis, Holons Tokens, Holons Community, Holons Bank, Cryptocurrency Exchange, Tron Token
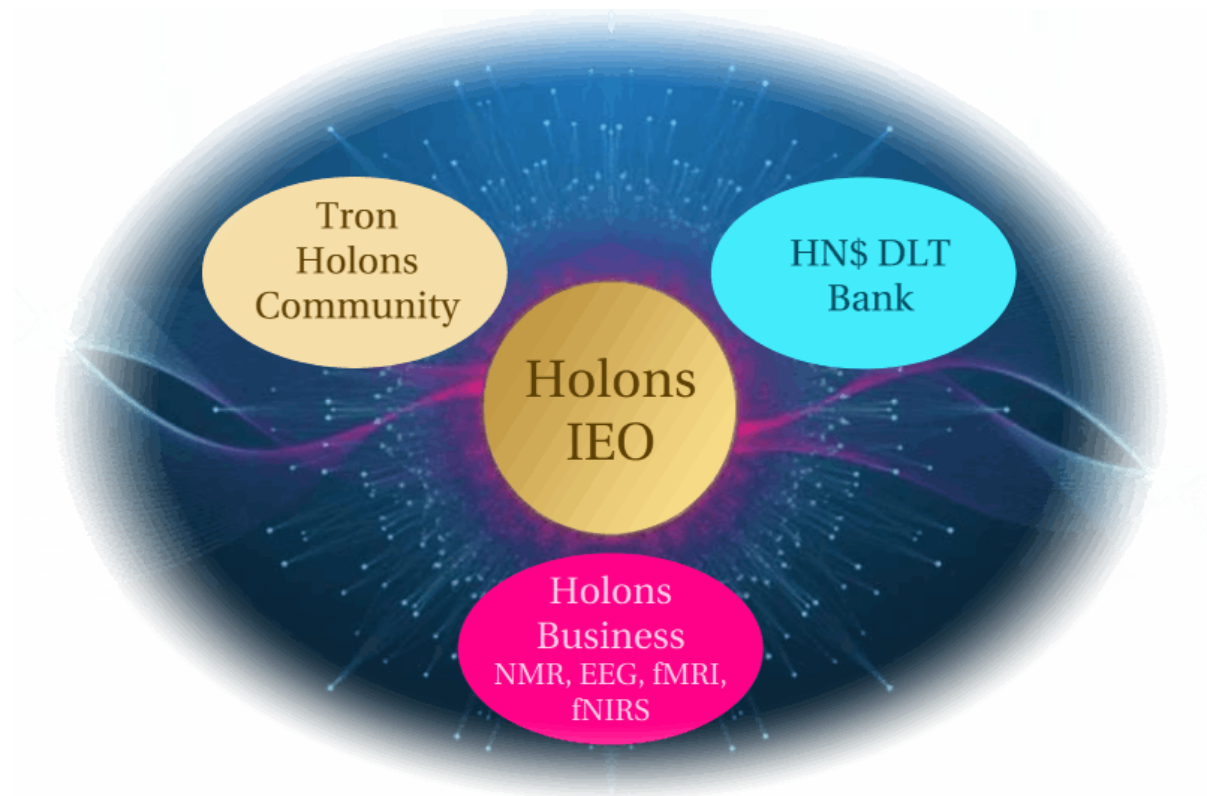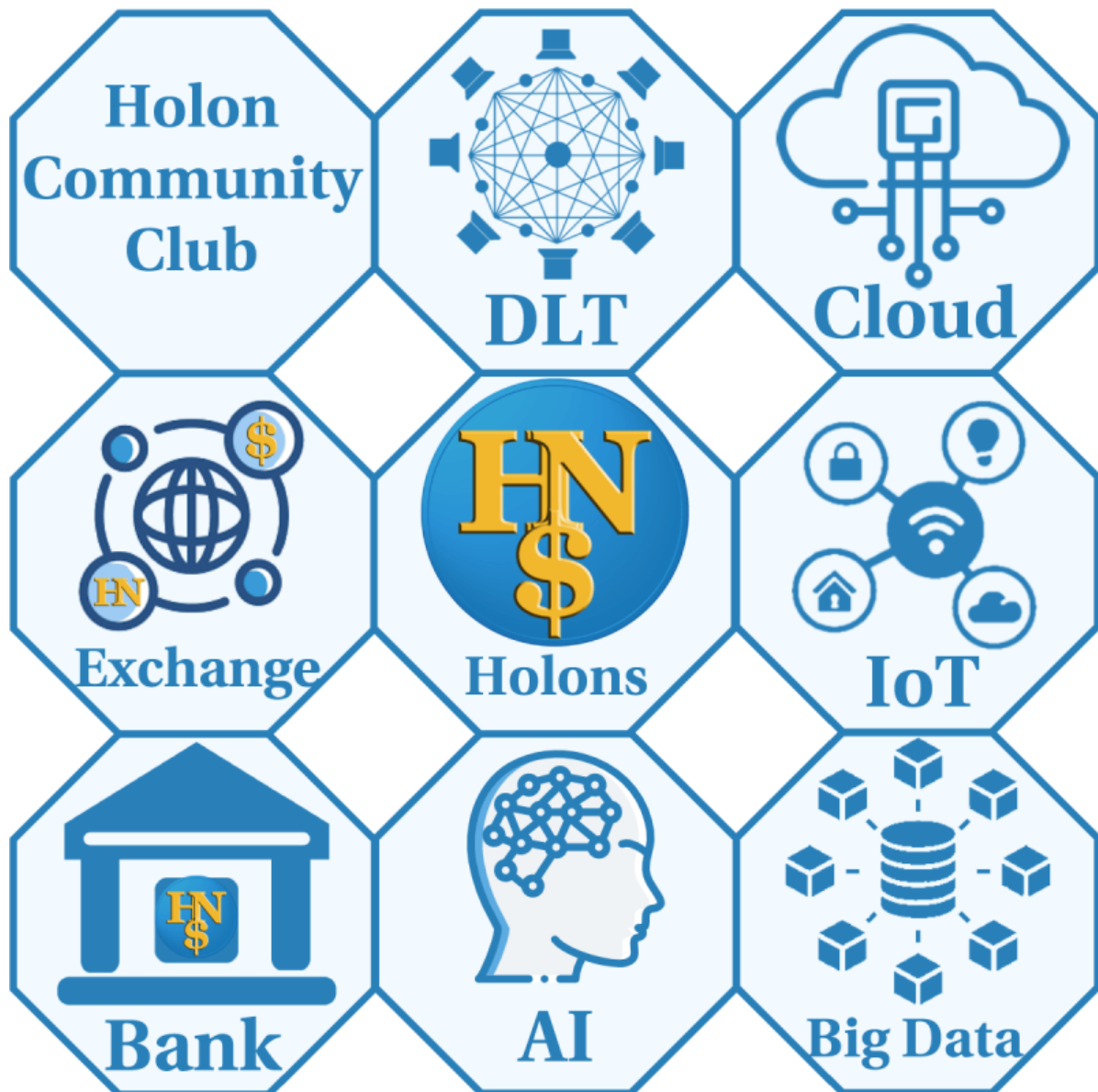
Fig 1. Holons Token Cryptocurrency Exchange is based on three pillars: Holons community, HN$ DLT Bank and medical imaging devices that are integrated in cryptocurrency exchange. Relations between them are characterized by the flows and interactions within the Holons Community.

Realizacja projektu tokenów Holons jest realizowana według następującego planu

The implementation of the Holon $ tokens project is carried out according to the following plan

Dictionary

Artificial Intelligence (AI) ~ the analysis of "intelligent agents," or machines that perceive their environment and take actions to improve their chances of achieving their objectives. Artificial intelligence refers to machines that mimic "cognitive" roles that humans associate with the human mind, such as "learning" and "problem solving."

Business Model ~ a set of rules that govern operation of the project in aspects of product delivery and usage by its potential customers.

Cryptocurrency Exchange ~ allows users to trade cryptocurrencies with other assets such as fiat currencies or other digital currencies.

Decentralized Finance (DeFi) ~ various forms of financial products that operate on Distributed Ledger Technology that are designed to remove centralized middlemen, such as banks and exchanges from financial operations on the network.

Distributed Ledger Technology (DLT) ~ a decentralized protocol that provides secure organization and functioning of digital database

DLT Bank ~ distributed network driven financial institution that offers a decentralized way to conduct financial operations like deposits and loans.

Electroencephalogram (EEG) ~ a measurement method, where a current is collected from the electrodes positioned on the scalp from which the brain activity can be derived using the inverse problem.

Holon ~ a representation of an element that is a whole and a part of that whole at the same time. An organization structure based on holons is called holarchy.

Holons (HN$) ~ name is derived from holon and accentuated with $ sign to associate it with core DeFi functionality

Holons Exchange ~ cryptocurrency exchange inspired in its functionality by a traditional Forex~type exchange institution like Cantor Futures Exchange.

Initial Coin Offering (ICO) ~ early acquisition of starting capital through highly marketized and intensified sale period usually in a form of public, crowdfunding~ like offering.

Initial Exchange Offering (IEO) ~ like ICO, it is a way to attract early investors and while ICOs are self~managed, IEO is facilitated by a 3-rd party exchange and available for the members of that exchange.

Internet of Things ~ network of physical devices for the purpose of gathering and exchanging collected data and information via the Internet.

Magnetic Resonance Imaging (MRI) ~ an imaging technique that reveals the aspects of anatomy (MRI) and physiology (functional MRI or fMRI)

Minimum Viable Product (MVP) ~ a version of a new product that fulfills its specifications on a minimal level and allows to validate it in the market and learn about the customers.

Peer-to-Peer (P2P) ~ is a distributed application architecture where network tasks are divided between equally privileged and equipotent users.

Token ~ digital assets that exist on already established DLT networks and follow a set of rules provided by its parent network.

Introduction

Holons (HN$) Tokens Hybrid is a digital asset platform, which aims at building a strong, network~driven currency for funding, conducting and cooperation on research with medical devices. It is a simple idea to create a token used in development & growth of a digital collaborative research platform.

Holons Tokens Hybrid is a Peer~to~Peer (P2P) or Researcher~to~Researcher (R2R) network. Its two primary purposes are collaboration on research using medical devices and data analysis. In order to foster Holons Tokens Hybrid network's growth, it is designed to facilitate payments for participation in measurements commissioning research using medical devices in distant locations, access to scientific programs and experiments, and provisions of the research data.

Researchers will also be able to apply for research grants and use crowdfunding capabilities of tokenized network to receive the funding based on network participants' votes and contributions.

Holons Distributed Applications (HolonsApps) and Forum App are the primary network activity facilitating and stimulating elements.

Holon Token Network

HolonsApps ~> Main functionality for interaction with the network is handled by HolonsApps which are easy to develop thanks to an easy and intuitive development environment that handles most of the heavy lifting automatically leaving the developers to focus on business cases.

Forum App ~> The Forum App is the Internet center for communication on important Holons Internet Things (HolonsThings). A project or a problem is posted and we all participate in helping find and apply solutions and make collective decisions. Resource Management Guides help us understand the data and make sure we stay within Earth's

carrying capacity using the scientific method with a focus on ensuring Earth's continued Holon Consciousness supported by Bank Credit$ Hybrid.

Technological Overview

State of the DLT

The emergence of Distributed Ledger Technology (DLT) pioneered by Stuart Haber and W. Scott Stornetta (1991), David Mazières and Dennis Shasha (2002) and Nick Szabo (2005) has lead to the invention of blockchain (BC) by Satoshi Nakamoto in 2008 which solved the double spending problem that Szabo faced with his bit gold and opened the doors for the future development to many incarnations of BC.
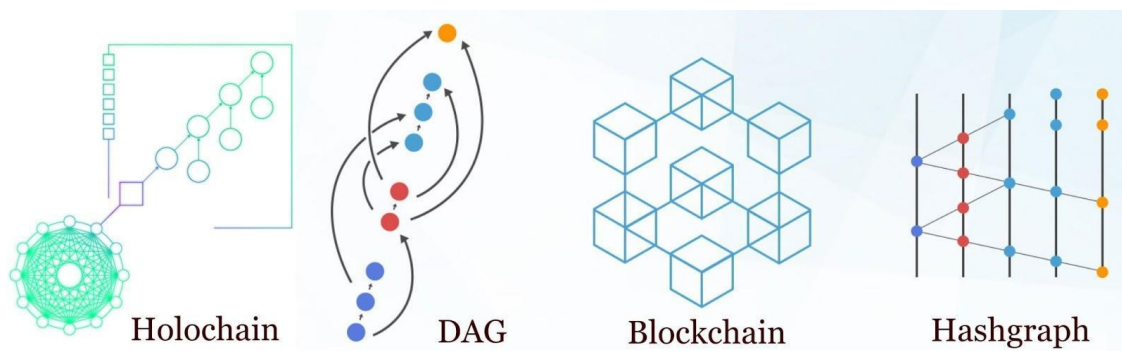
Fig 2. Prominent examples of networks developed on Distributed Ledger Technology

Various DLT implementations offer advantages and disadvantages. BCis the most common and most widely used DLT, where each transaction is verified by the entire network through its consensus mechanism and saved in the network as a block containing transaction details, sender and receiver signatures and reference to the previous block. Hashgraph operates on the Gossip Protocol and Virtual Voting that allows for multiple transactions to be stored in a parallel stack with an "Event" timestamp which provides greater scalability. Another example of highly scalable DLT implementation is Directed Acyclic Graph (DAG), where the users only need to validate two old transactions and all the links made between nodes go in just one direction. Holochain brings decentralization to an even higher level

with agent~centric approach, where each individual node administers its own chain while being a part of a larger network.

While Hashgraph, DAG and Holochain address main limitations of BCs, namely the transactions per second speed that affects scalability, consensus~based method which is very energy demanding, BC DLT realizations still by far surpass any other. In particular, the Tron Coin Network with its ERC~20 smart contracts standard which opened the doors for many independent projects to contribute to its unprecedented expansion.

Tron Smart Chain Network

Tron Smart Chain (Tron Team, 2020) released an open source computing platform based on Ethereum ERC20 token with programmable smart contracts. The ERC20 development standard for tokens is what made Ethereum the largest network with the emergence of many successful projects using Ethereum platform to bring their vision forth. Key features that made it possible can be summarized in principles stated in Ethereum's whitepaper (Buterin, 2014).

Tron Smart Chain has been developed primarily to trade cryptocurrencies and pay for fees on Tron exchange, one of the biggest cryptocurrency exchanges in the world. It derives the following features from Ethereum:

❖ Simplicity ~ it is designed to be easily approachable by average developers and any future optimization of the network is set to adhere to this promise,
❖ Universality ~ Smart contracts are designed in such a way that they allow the development of a wide range of inventive realizations and which can be mathematically defined. It is a general purpose program,
❖ Modularity ~ Feature complete libraries implemented within Tron Smart Chain protocol and can be utilized in another part of Tron Coin network
❖ Agility ~ Tron Smart Chain protocol is adaptable to possible future improvements
❖ Nondiscrimination and noncensorship ~ the protocol does not impose any rules to prevent undesirable applications, harmful implementations are to be regulated on a direct basis.

Tokens are synchronized across the entire network. The client synchronization protocol is a secure mechanism where the server gets updated whenever any new transaction is made within the network and those changes are being automatically synchronized with connected clients. As soon as the client gets synchronized with the network, it is ready to operate transactions.

Technological Platform Overview

Holons Token Project programs satisfy the need for change expressed by 3D medical imaging   enthusiasts and medical engineers. The platform works together with a decentralized payment system for secure Holons Credits transactions.
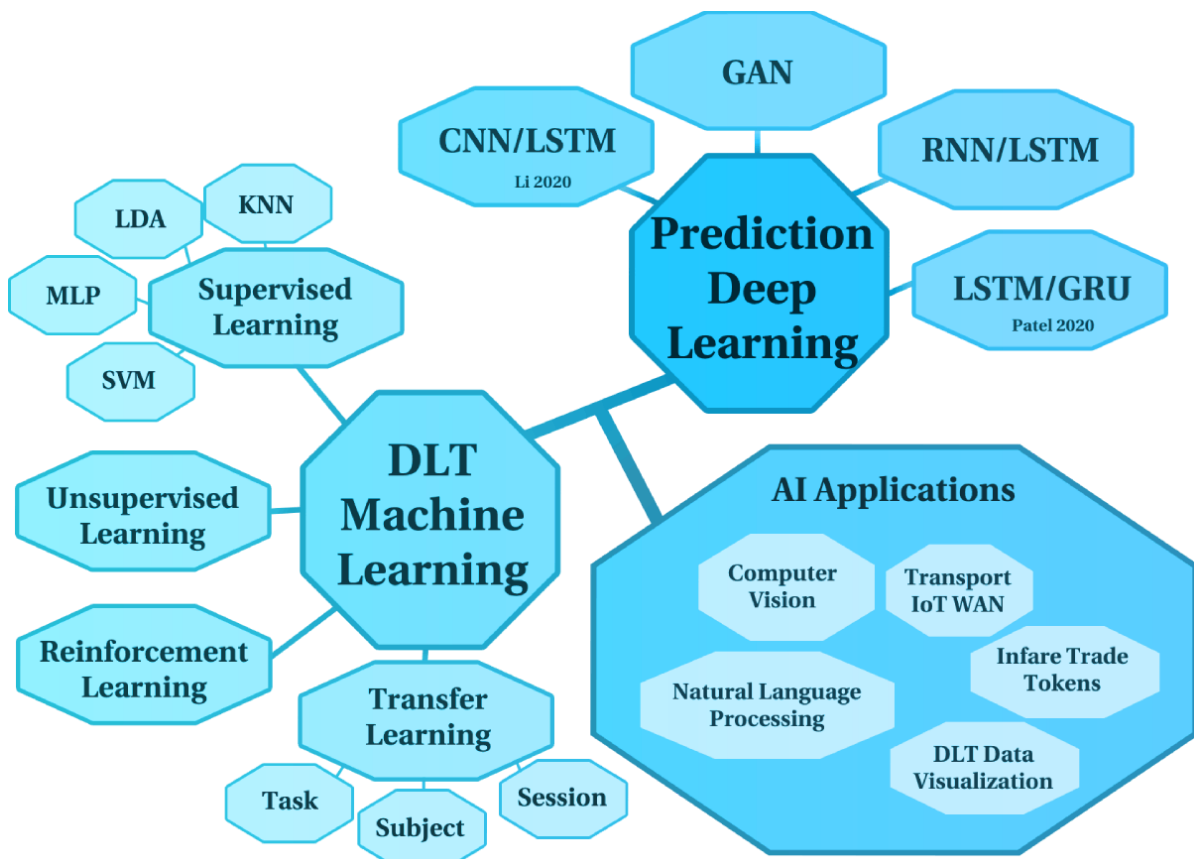
Artificial Intelligence Algorithms

Fig 5. Artificial Intelligence Algorithms

The AI technologies used in the IoT applications include Machine Learning (ML) and Deep Learning (DL) models. ML is further subdivided into Supervised and Unsupervised learning, Reinforcement Learning, and Transfer Learning. Within Supervised Learning, the most commonly used algorithms are K-Nearest-Neighbor (KNN), Linear Discriminant Analysis (LDA), Multilayer perceptrons (MLP), and Support Vector Machine (SVM). Transfer Learning relies on transfers between either tasks, subjects, or session respectively. DL's most commonly used algorithms in IoT data analysis are Convolutional Neural Networks (CNN), Recurrent Neural Network (RNN), in particular Long Short Term Memory (LSTM), and Generative Adversarial Networks (GAN) [1].

How to Participate

It all starts with the people's involvement and there are a two main ways to get involved in Holons Tokens Hybrid.

Join with your research equipment

Whether you are a team of researchers with a measurement lab or an individual with zest to collaborate on a larger scale, join in with your research equipment and be part of the movement to bring the research to a wider community. Contact admin@holon.uk for further details in this regard.

Initial Coin Offering

To sustain the costs of development for the project and to gather resources for the more equipment to join to the network, we will launch an ICO starting from 16 November 2021 and run the first phase for a period of a month after which we will evaluate it and plan for the possible subsequent phases. The initial offering will be 6.66 Tron for 1 HN$.

All funds raised at the development stage will be invested in purchase of further medical equipment as active assets within the network as well as Holons Tokens Hybrid network development, expansion, and promotion guaranteeing a quicker growth rate and increased popularity.
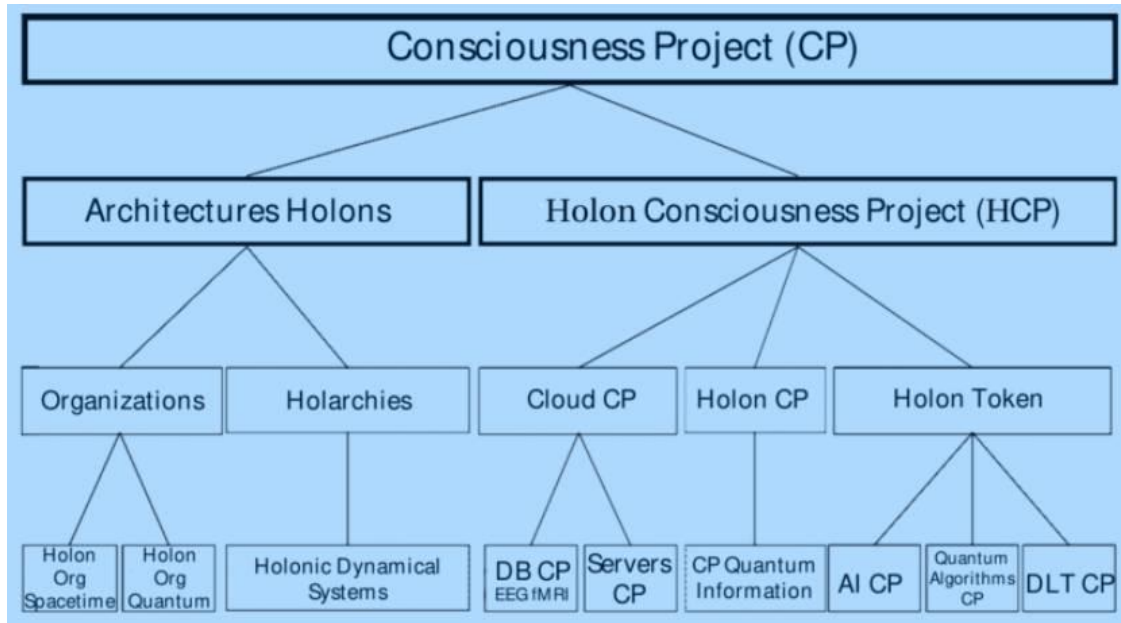
Fig 5. Consciousness Project (CP) ~ Holon with DLT CP as one of the base holons

Holons Tokens Hybrid has an important place in the Consciousness Project (CP). It serves as a Quantum Network Sensor, where the network is made from holons and implemented and the way that the activity on the network is analysed with artificial intelligence algorithms to detect stochastically influenced quantum phenomena on the network.

This implementation is realized with the concept of integrating medical devices into the network as IoT devices to activate the propagation of research data through the Bank Credit$ Hybrid network and enable highly scalable analytical investigation of large datasets with Artificial Intelligence in cooperation with the Holon Consciousness Project.

Holons Tokens Hybrid network with incorporated medical devices and researchers collaborating to generate valuable data for the Holon Consciousness Project community and clinical research organization.

Research Crowdfunding

Very important aspect of scientific research is funding. It is the funds issuers that have the main say into what research project will be carried out. Our mission is to bring research driving force and decision making to people and see the projects thrive using crowdsourcing power.

How it Works

Holons as cryptocurrency

Holons will be listed on trusted exchanges and serve as decentralized cryptocurrency for investors and early adopters to support and finance the project and obtain shares at the project's inception, which is when then highest returns can be expected. Moreover, early adopters with be incentivized by dor

Whether for a one day session or a more extensive week~long event, Bank Credit$ Hybrid platform connects enthusiasts and practitioners with offerings at any price point anywhere all over the world. And with a growing community of partners, the Bank Credit$ Hybrid platform will be the ideal way to buy or sell customized DLT Banking sessions and devices internationally.

Bank Credit$ Hybrid will be powered by a set of programs deployed on the Tron Coin DLT. Which will provide transparency and ease of payment.

Users will login onto the platform, decide which services to purchase, and the record of such purchase is stored onto the DLT. Functions and activities performed prior to purchase, such as searching for or adding new schedules will be handled by the traditional platform.

Bank Credit$ Hybrid ~ Organization Technology

Bank Credit$ Hybrid is a platform that allows internet enthusiasts, practitioners and service providers in the DLT Banking industry to participate in a direct, decentralized, real~time marketplace, where they can exchange services for medical devices supported by the Holons network and smart contracts. It enables its members to search, negotiate and purchase medical devices and services and communicate with every party involved.

In the three layer client~server architecture, DLT occupies data and logic layers and focuses on the contractual part implemented by smart contracts, whereas AI applications enhance subprocesses located in logic and presentation layers. In other words, DLT primarily supports server~side, data~oriented functions and AI supports client related functionality and interfaces. (Dietzmann 2020)

Bank Credit$ Hybrid platform focuses on creating real~time, in~person engagement, and because of this, the Bank Credit$ Hybrid platform is designed to accommodate services and scheduling tools for providing interactive DLT Banking sessions. Since the majority of our current offerings are onsite DLT Banking experiences, we have built the Bank Credit$ Hybrid capability to manage a range of tasks, including the negotiation of costs, the securing of service providers and the creation of certificates for Bank Credit$ Hybrid courses.

Bank Credit$ Hybrid is a multi-dimensional DLT Banking platform that facilitates participants, costs, locations and scheduling. The effort to fund, plan and host a complete in-person events, requires certain technical nuances and requirements that translate into well managed schedules.

Why Bank Credit$ Hybrid?

Bank Credit$ Hybrid technology has fundamentally expanded the capacity for people to coordinate. The Bank Credit$ Hybrid platform is a collaboration tool for a community working together to make DLT Banking more affordable and more accessible. To

understand how and why the Bank Credit$ Hybrid platform leverages this powerful new technology, three distinct DLT use cases are examined.

Holons DLT AI Hybrid

Holons Big Data

Open research data and results database

Known hindrance for any data scientist when training the analytical models is limited access to large sets of quality data. Enabling a platform that helps gather and structure data generated during the research is a great asset that enables future collaborative work, cross disciplinary engagement, meta analyses and machine learning. Holons Tokens Hybrid aims to create a platform where funded projects are incentivized to provide their research data for the entire community.

3D assets

3D assets that are used by Holons Community include the results from medical 3D imaging devices as well as 3D contents that are created by therapists as therapeutic aid in their treatments. Aside the primary use of these assets, they can then be placed in the secondary market operated by Holons Bank, where others can purchase them for other tokens according its market value

Holons Medical devices and networks Hybrid Internet of Things (IoT)

Technological advancements are moving very fast and push rapid development in the network technology as well as in the equipment for biological measurements. Online research collaboration is blossoming with many projects and platforms providing all the necessary tools and means proving that the Internet is the future of collaboration. Most of the available platforms exist within standard centralized solutions and this market is still to benefit from the exceptionally rapidly growing decentralized ledger technology.

Similarly, the IoT systems are on the rise with a great portion of it being the wearable or portable health monitors. We envision a truly interconnected network of highly profiled medical and health research equipment to be incorporated in the network to enable opportunities for growth in collaborative research.

Holon research data structure

Research data collection from medical devices connected to the Holons Token Hybrid network are structured in a holarchic way, where each dataset stands for a base holon and builds upwards to represent different states of human health conditions towards the generalized human health model at the top.

Data collection and storage is handled by local servers and cloud servers hybrid. This means that the medical devices can be physically connected to a local server that is connected to the network or remotely and dynamically with the network's cloud.
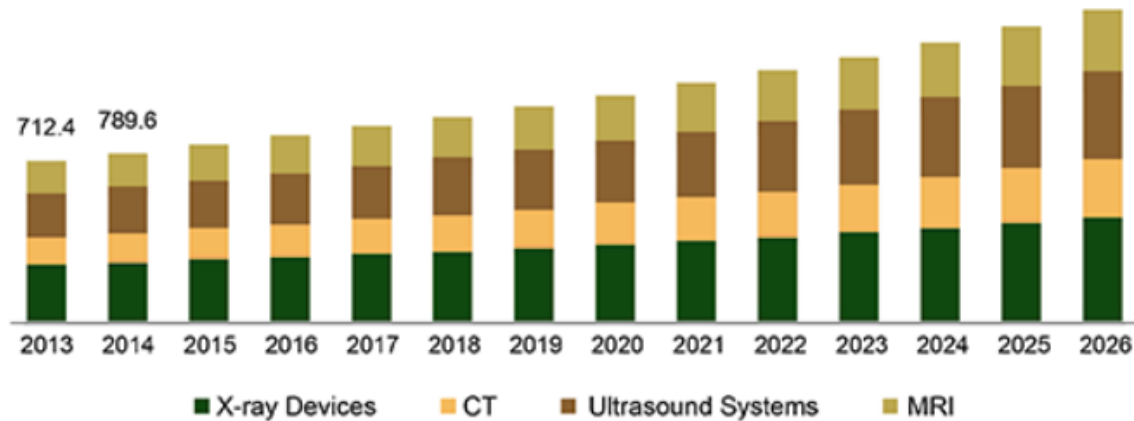
Marcet Considerations

Fig 1. German market forecast analysis for 3D imaging technology shows a trend that medical devices are on the rise.

It is estimated that the worldwide 3D medical imaging devices market reached 10.8 billion in 2017. Furthermore, anticipated CAGR in the years 2019~2026 is to be 5.9%. 3D imaging devices market rise is largely due to advancements in 3D imaging technology and investments by government and private organizations[1].

A Deeper Discussion about Holons Tokens Hybrid

[1] 3D Medical Imaging Devices Market Size, Industry Report, 2019-2026, Grand View Research, 2019
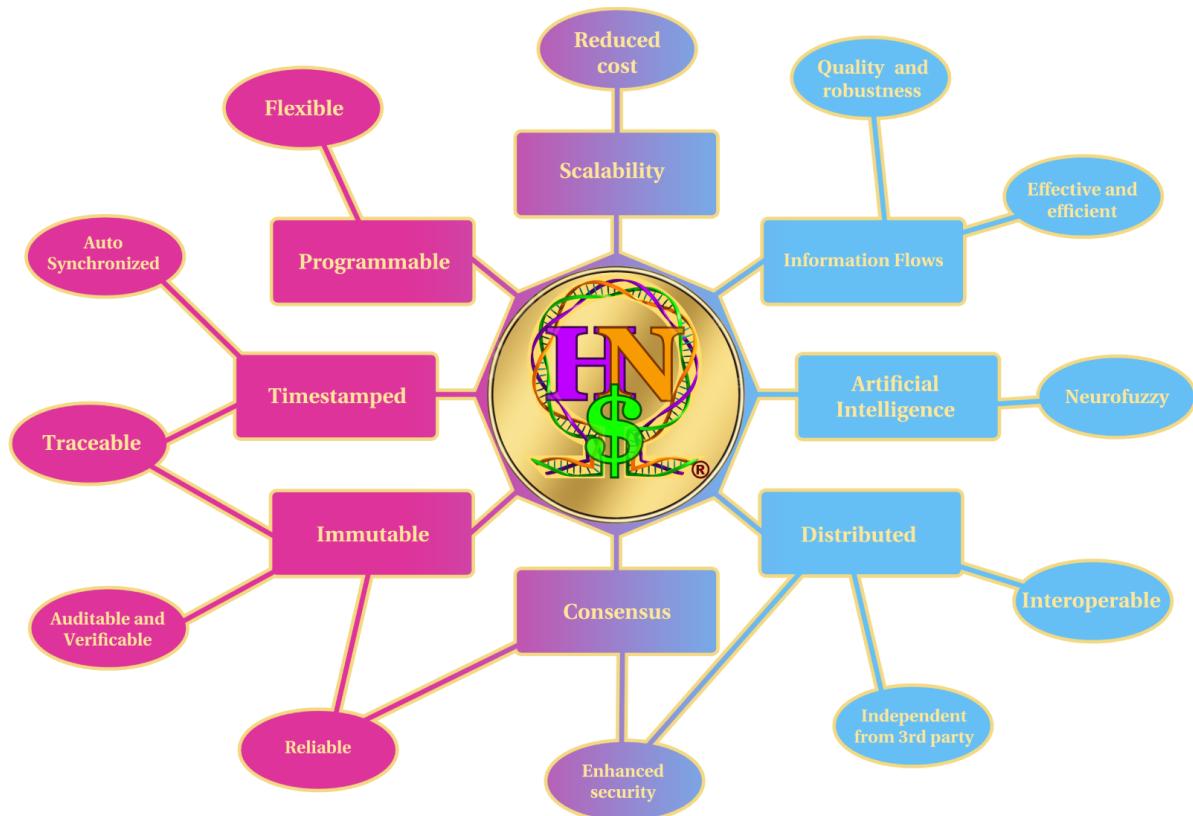
Fig 3. Holons realized on DLT, properties and features

Holons Tokens Hybrid, realized on the Tron Coin network and modelled in Holarchical structure, has the properties like cost reducing scalability, programmability that give application development flexibility, has time stamped and immutable data packs which are auto synchronized, traceable, auditable, verifiable and reliable. It benefits from enhanced security guaranteed by its validation consensus, is distributed which facilitates interoperability, has artificial intelligence algorithms designed on top of it as well as ensures robust and effective information flows.

How to use HolonsApps

Holons Tokens Hybrid joins all incorporated medical instruments browsable HolonsApps. Each HolonsApp gathers devices related to a certain research profile. The HolonsApp name is a descriptive of this profile. HolonsApps are simple and intuitive to use. There is an intuitive lookup that queries through devices, project names, research profiles, research teams names etc.

The researchers provide the details regarding their project, research objectives and the equipment they wish to use themselves or to commission their tests on. This provides an easy and efficient way to commence the research and prepare for gathering research results, which can be stored and kept available for the network's access and provisioned to other researchers and analysts. This contributes to the Holons Tokens Hybrid research database

to expand and allow for multidisciplinary research and analysis of the quality data at the fraction of what it normally costs.

Holons Credits for Internal Payments

Holons Tokens are used to facilitate transactions on the network to pay for the use of the medical equipment and the research results available on the network. Internal transactions will be primarily conducted using Holons Credits, a payment and reward system for the participating actors. Holons Tokens Hybrid separates these two mechanisms of value holding, which serve different objectives. Holons Tokens can be converted into Holons Credits, but not the other way around.

Holons Credits are used in a decentralized Holons Bank which enables community members to conduct transactions involving exchanging goods and services between members and other cryptocurrencies (Ethereum, Bitcoin, Tron Coin) with popular exchanges.

The Holons Credits can only be used within HolonsApps and only by the purchasing public key. This helps with the security since they cannot be resold when taken over. Holons Credit private keys can be therefore held in low security areas.

Knowledge & Information Distribution in the Network

The principal idea for the Holons Tokens Hybrid is knowledge and information distribution which is realized through network collaboration and research data storage and provision.

Online collaboration

As a result, presented Hybrid from medical devices experiments and networks, motivated in part by current technological progress in the field, would lead to a number of improvements, including accessible experimental results and discussions, greater decentralization, better efficiency to perform joined studies, token based data, equipment and funds distribution, more secure data management, and a more robust ecosystem.

Medical devices tokenization

Holons network Bank Credit$ Hybrid provides tokenization of the research commodities and database administration from medical scanners such as EEG, MEG, MRI. Due to the confidential nature of medical information, all personal and research data are shared within the network in a safe and secure way with high degree of data anonymity.
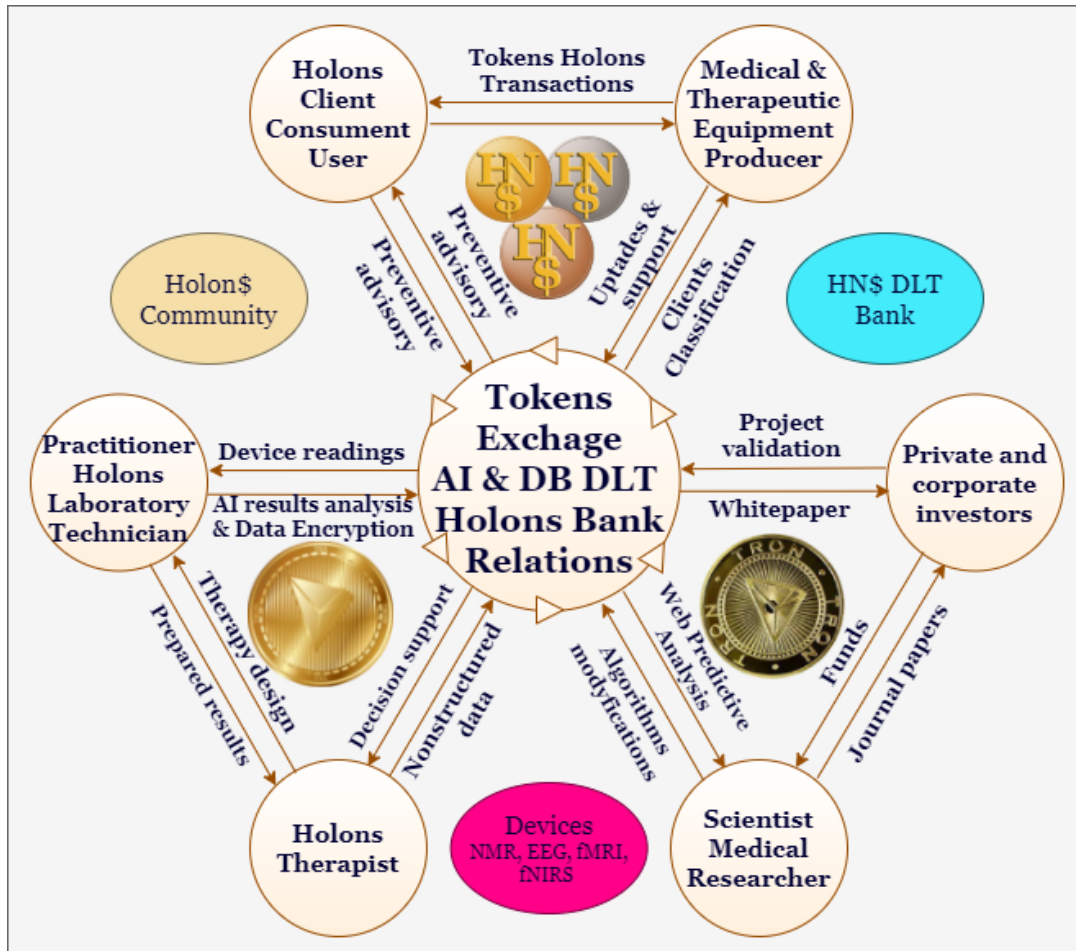
Fig. 4 Artificial Intelligence based Relations Flow for Holons Tokens Database implemented in Distributed Ledger Technology in accordance with Holons three main pillars: Holons community, HN$ DLT Bank and medical imaging devices which influence the flows and interaction in the network.

1. Holons Bank Client intends to use the Holons Tokens Therapy and transfers the tokens for the service

2. Practitioner performs the diagnostic readings from the client and applies the therapy designed by the therapist; Technician support practitioner in device related service and is responsible for the maintenance of the AI and DLT servers

3. Holons Therapist designs the therapeutic programs for the clients supported with network derived analysis.

4. Medical Researcher works on the scientific basis of the predictive and diagnostic algorithms and modifies them respectively as well as designs DLT Banking objects for therapeutic programs in response to the investors' input

5. Private and corporate investors support and finance the project in exchange of project's shares. They receive voting rights based on their participation in the shares and can influence the direction which the project takes.

6. Medical Equipment Producer manufactures the devices, provides it to the user and adjusts it to the network's demands.

Broader aspect of the utility of Holons Tokens Hybrid is visualized in Fig 4 with future key actors contributing from the research objects, AI analysis of the data and collaborative tools developed on the Bank Credit$ Hybrid network at dApps.

Physical conditions for the network

1. Complement Internet network with holonic architecture based on the holon organization described by Piero Mella in The Holonic Revolution (Mella, 2009) and inspired by the recent advances in quantum network hybrids operating on swapped photon entanglements (Khadilkar, 2020).
2. Incorporate Medical applications including data from Bioresonance and Magnetic Resonance Imaging MRI to the network to find the correlations between them and the anomalies occurring in the results.
3. Introduce quantum algorithms and AI in the network for multidimensional data analysis in the cloud.

Bank Credit$ Hybrid procedures description

1. Incorporate Holons Tokens as means to reward participation in the network
2. Each user downloads the entire network and it needs to be synchronized when the user wants to make a new transaction.
3. Every transaction validated by the network through its defined consensus will be synchronized with all other nodes in the network.

Network Nodes

Network node stores the full DLT data available on disk. On request, it can serve the network with stored data. It participates with the process of new transactions validation in which it receives and saves any new transaction. For more efficient synchronization, it only stores the most recent state. When it gets synchronized, it stores all new states from that point.

Conclusion

Cooperation within Holons Tokens Hybrid is ideal for independent researchers and small teams. It provides a platform to share experience and research methods, resources and experimental results with your collaborators around the world, track individual contributions to research projects in your collective project overview, and customise your access and permission rights to fit your specific needs. On top of that, it produces an ever growing adequately structured body of data that is a great opportunity for data analysts and Artificial Intelligence experts to benefit from large training data sets.

The community, organization and bank formed around Holons Tokens Hybrid collaboration helps with its other purpose, to establish a Quantum Network Sensor that detects stochastically influenced quantum phenomena with Artificial Intelligence algorithms on the Holons Tokens Hybrid network.

Team

Tadeusz Habdank~Wojewódzki, PhD
Tadeusz is the driving force behind Holons Tokens Hybrid with his in-depth understanding of the multidisciplinary market correlations and ideas that prove themselves to be exactly what the market needs. He excels at designing Hybrid DLT algorithms in network applications.

Seweryn Habdank-Wojewódzki, PhD
Seweryn received his PhD in Automatics and Robotics passionate to bring Holons Tokens Hybrid initiative to new heights with state of the art integration of medical devices and AI application for cloud analysis of the measurement results from the integrated machines.

Julianna Habdank-Wojewódzka
Julianna is passionate about the networks and servers and she administers the server cluster that host the nodes for Holons Tokens Hybrid.

Felicja Habdank, MSc
Felicja maintains the health of the organization by managing the books through the project's financial and legal supervision.

Mikkel Aagaard, BEng
Mikkel is the core developer in the team setting the foundations for the code base and oversees dApps development and network's maintenance.

Roadmap

August 2021 ~ Concept presented

September 2021 ~ Forming development

October 2021 ~ Token Published

November 2021 ~ Social Media campaign

December 2021 ~ IEO starts

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