

Blockchain and Crypto in Longevity Industry

Teaser

2023

Table of Contents and Intro

Blockchain in Longevity Industry Framework	3
Sub-Sectors Definitions	4
Blockchain and Crypto in Longevity Industry General Market Overview	7
Longevity Tokenomics	12
Crypto Tokens Support for Longevity	15
Case Studies of Synergetic Effects Between Blockchain and Longevity Industries	17
Crypto Leaders Invest in Life Extension Technologies	25
Profiling of NFT Technologies	26
Profiling of DAO and DeSci Technologies	32
Takeaways	35
Disclaimer	35

Introduction

The Longevity Industry refers to scientific research into aging and its diseases (i.e., geroscience research) but also to a set of synergies between four intersecting sectors: P4 (personalized, precision, preventive, participatory) medicine, AgeTech, and longevity finance (consisting of a set of novel financial systems) with the combined potential to extend healthy life span; hence, its overall size potentially exceeds \$27 trillion. While the majority of practical outcomes in healthy Longevity will be driven by precision health technologies, they will also require an assembly of other Low- and DeepTech components, for example, Blockchain Healthcare Management Solutions and Platforms, as well as Blockchain Economy projects such as DAOs, NFTs, etc.

The report delivers an overview of the trends, funding activity, and risk assessment for various companies working on the intersection of Longevity and Blockchain Industries. The market overview was conducted according to a framework. The Blockchain in Longevity Industry Classification Framework developed by the Aging Analytics Agency is a comprehensive tool for industry analysis that facilitates comparison of blockchain businesses and emphasizes the way of their operations influence on Longevity Industry.

Blockchain in Longevity Industry Framework

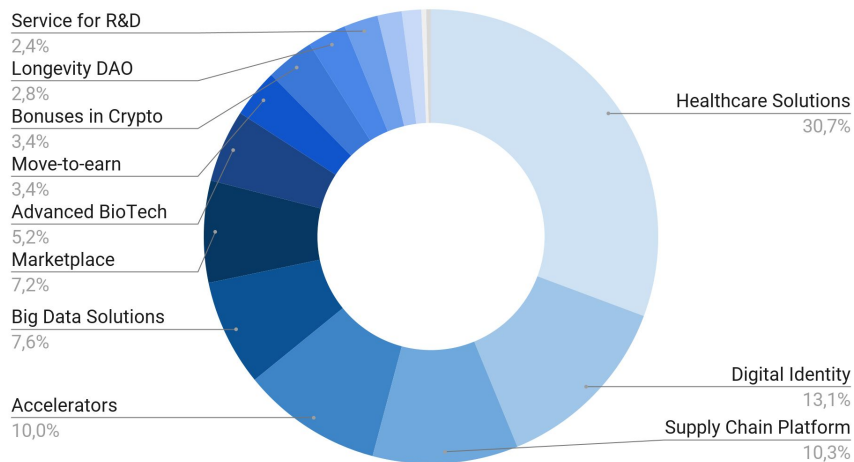


Blockchain and Crypto in Longevity Industry

Market Dynamics

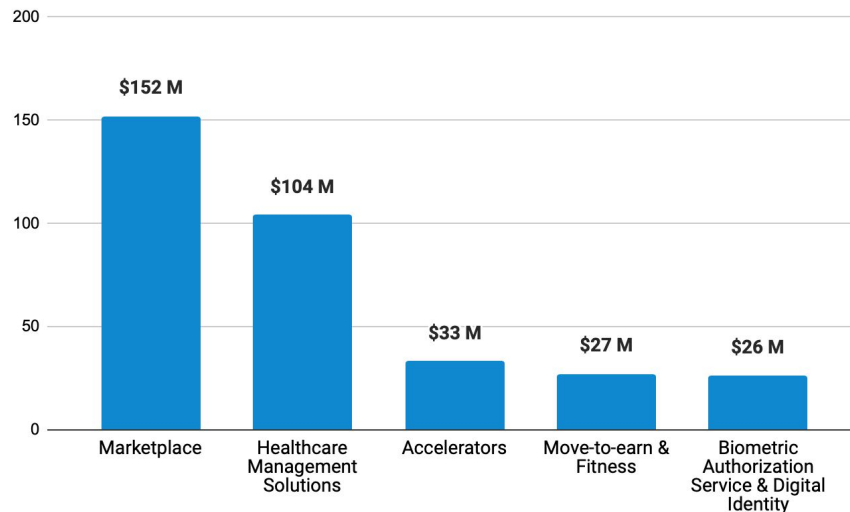
Blockchain in Longevity Industry Overview

Distribution of Sub Industries by Number of Companies



Companies leveraging blockchain for developing healthcare management solutions and platforms account for the largest segment among companies engaged in Blockchain in Longevity industry. A rapid growth of the number of companies is also observed in blockchain usage for more secure management and storage of digital identities and transparent, real-time supply chains. A number of sectors are adopting cryptocurrencies as a means of payment or crypto-rewards to incentivize their customers.

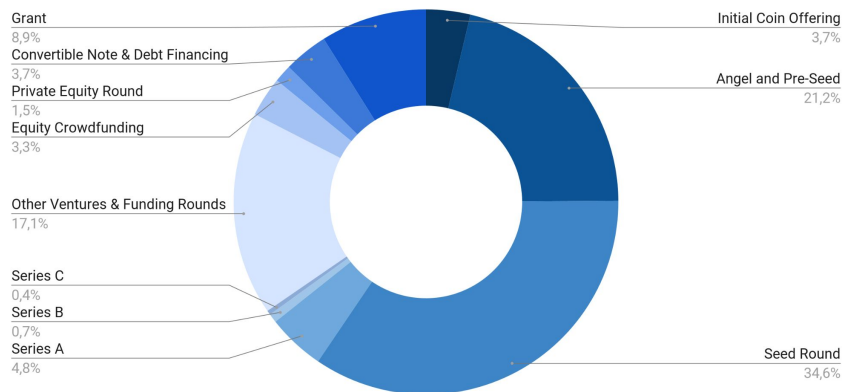
Cumulative Funding by Sub-segment, Million USD



Blockchain-based Marketplaces and Healthcare Management Solutions have the highest total finding among all sectors. Marketplaces are rapidly building trust between sellers and buyers and drawing significant investments to the sector. Both governments and private companies are looking for efficient solutions to share patient data across global healthcare, which brings a lot of focus to blockchain-based systems that could provide necessary confidentiality and privacy in healthcare management.

Blockchain in Longevity Industry Overview

Funding Round Type



Companies in the Longevity Industry are primarily comprised of startups still in the early stages of their respective development processes and are currently on Pre-Seed or Seed funding rounds. Compared to other industries, Equity Crowdfunding round is much more common and an IPO alternative, ICO, is becoming notable in the Longevity Industry.

Major Funding Deals 2021-2022






Company	Sub-segment	Round	Deal Size	Date
Naetion	Marketplace	ICO	\$150 M	11-May-2022
Brinc	Accelerators	Series B	\$30 M	14-Dec-2021
Fit&Beat	Move-to-earn & Fitness	Venture Round	\$25M	29-Sep-2022
Molecule	WEB 3.0	Seed	\$13M	15-Jun-2022
Chroniced	Blockchain Healthcare Management Solutions	Seed Round	\$8.3M	17-Feb-2022

“Fungible” Crypto Tokens Accelerate Longevity

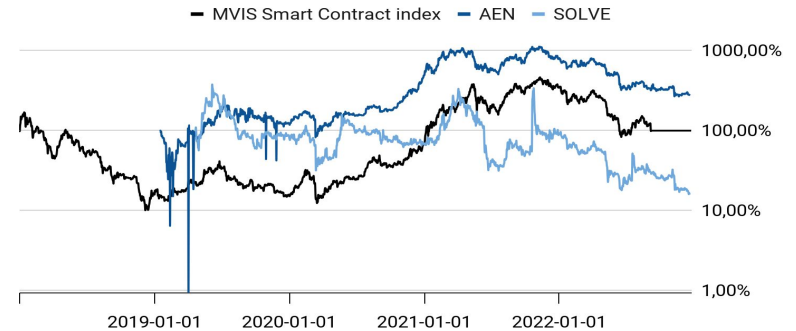
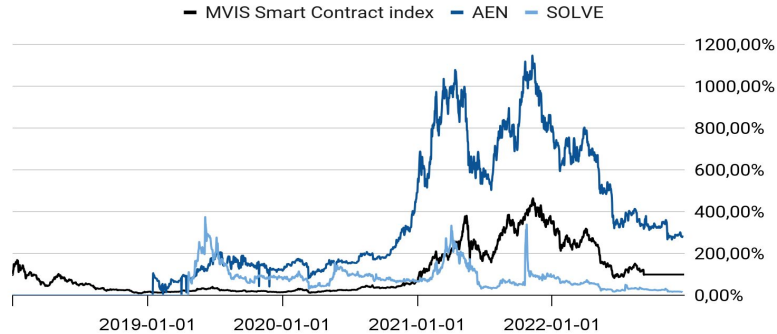
Longevity Tokenomics



Crypto Tokens Support for Longevity - Top Rounds

Major Funding Deals in Blockchain Companies supporting Longevity

Company	Company Description	Round	Date	Investors
Genobank.io 	Genobank.io is a provider of DNA kit intended to keep track of all the data sets and genome reports	Pre Seed Round	31-Oct-2022	Expert DOJO
Fit&Beat 	Fit&Beat creates a licencing model for personal trainers based on blockchain and utilising XR technology to transform the fitness industry	\$25M Venture Round	29-Sep-2022	The Global Emerging Markets Group
PUML Better Health 	PUML Better Health gamifies sports challenges and reward users for being healthy and active. Users earn \$PUMLx and Athlete NFTs when being active in sports or in the Metaverse	\$200K Pre Seed Funding	23-Aug-2022	DWF Labs
Cardio Health 	Cardio bridges real-world exercise (Move-to-Earn) with metaverse activity & in-game play (Play-to-Earn)	\$1M Seed Round	10-Jun-2022	Smilegate Investment, Nanuhm Angels, KyungDong Invest, Crescendo Equity Partners
Encrypgen 	Encrypgen develops software for genomic data, empowering patients and donors, facilitating health, business, and science	Seed Round	1-Mar-2021	Undisclosed

Crypto Tokens Support for Longevity – Price History



Longevity Crypto Company Name	General Description	Token type	Secondary Market Ticker / Private	Features	Industry and Other Comments
Aenco 	Aenco is a HealthTech Financial Solutions Platform supported by the Aenco Blockchain. It is designed to enable businesses, in particular healthcare technology sector, to customize a wide array of impactful real-life applications.	Ethereum ERC-223	AEN	AENCO platform consist of three supportive structures known as Prime solutions, IB solutions and Smart cap solutions.	Marketplace; Decentralized prime brokerage is provided for users through distributed ledger technology that will support the use of collateral based digital asset borrowing and lending; The IB solution also offers sponsorship for healthcare technology, escrow services and an engagement portal for data analytics.
Solve.Care 	Solve.Care is a healthcare platform company that uses blockchain to redefine care coordination, improves access to care, reduces benefit administration costs, and helps reduce fraud and waste in healthcare	Ethereum ERC-20	SOLVE	Solve.Care gives healthcare stakeholders an opportunity to build their own dApps to form Care Networks.	Blockchain Healthcare Management Solutions & Platform; Solve.Care is unique because it not only allows networks to run independently, but to also have a fabric underneath that allows them to all communicate.

Case Studies of Synergetic Effects Between Blockchain and Longevity Industries

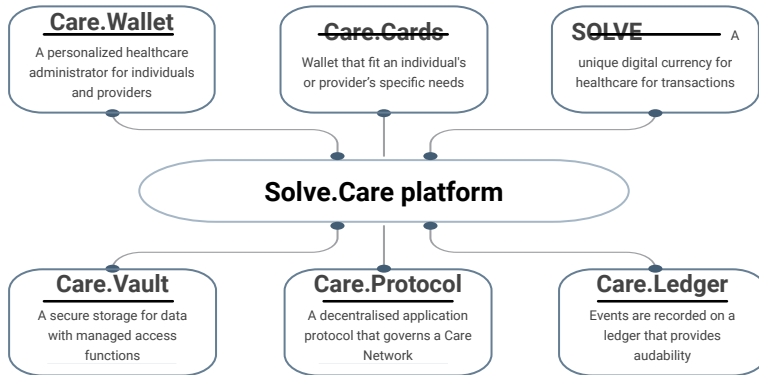
Profiling the leading companies according to
Blockchain in Longevity Industry Framework
Classification

Blockchain Healthcare Management Solutions & Platform



Founded date: 2017
Headquarters: Tallin, Estonia
Total Funding Amount: \$30.2M

A healthcare IT company that uses blockchain technology as the underlying distributed ledger for coordinating care, benefits and payments between all parties in the chain of healthcare: patients, doctors, pharmacies, laboratories, employers, insurers, and others. SOLVE token that runs natively on the Ethereum blockchain is used as the currency for transactions on the platform.



Founded date: 2018
Headquarters: Greenville, US

Rymedi provides patient-centered cloud-based health solutions with its blockchain enabled platform that allows patients to take control of their health information. Utilizing its secure & scalable platform, Rymedi is aiming to streamline the transfer of health records to remove barriers between patients and providers.

Rymedi Platform

Rymedi uses blockchain architecture made up of two private blockchains & one public blockchain. Rymedi captures PII on one private backbone and PHI on the other private backbone. The platform combines them both, creating an encrypted serialized ID on a public blockchain

Rymedi provides a cloud-based disease testing and vaccine administration workflow solution, reducing viral spread and simplifying mass testing setup & operations. The user-friendly platform simplifies reporting, data management, and the overall customer experience, thus streamlining workflows for clients



Founded date: 2017
Headquarters: Paris, France
Total Funding Amount: \$3.9M

Tilkal is an end-to-end, real-time representation of the supply chain that uses blockchain to facilitate and secure data collection while providing full auditability.

The supply chain traceability and trust platform has 4 components:

1. **Tilkal Connect** - Access to existing or new data from upstream and downstream partners
2. **Tilkal Platform Services** - Data aggregation and standardization + real-time analysis
3. **Tilkal Control Tower** - 360° visualization of the supply chain
4. **Tilkal Spotlight** - Interaction with customers

COMPLIANCE

Knowing your suppliers
Suppliers mapping and monitoring;
Validity of certifications;
Regulatory reporting
CSR impacts

SOURCING & PRODUCT TRACKING

Knowing where products are
Third-party stock management;
Parallel imports Counterfeit;
Transport and cold chain monitoring

TRANSPARENCY

Sharing the history of products
Product history and proof-based marketing
Authenticity;
Visibility on secondary markets; After-sales services



CANOPYRIGHT

Founded date: 2021
Headquarters: Oakland, US

Canopyright is a decentralized marketplace where cannabis breeders can register their unique cultivars and transact business with growers effortlessly, securely, confidentially, and paperlessly. A web3 website & app that helps cannabis breeders protect and monetize their cultivar IP by creating smart contracts.

Blockchain Benefits

Timestamping

Each message is timestamped by the network, which establishes that information was in the possession of a specific person at a specific time.

Public Accountability

When information is accepted into a blockchain, all the computers participating in the blockchain have come to agreement on the contents of a message and when it was received.

Immutability




The information stored in a blockchain is immutable – it can't be changed after the fact by anyone.

Case Studies of Synergetic effects between Blockchain and Longevity Industries

Addition profiling of NFT technologies implementation for Longevity



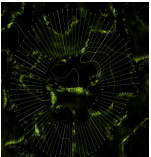
Longevity Non-Fungible tokens (NFTs)

The recent advances of the NFT power impact Longevity

The Project Name	Issuers and Participants	Longevity NFT Type	The Drop Period	Blockchain	Longevity NFT Purpose
E-LON-GEV-I-TY (Exponential long life)	 Dogelon Mars (\$ELON) & Methuselah Foundation	Community & Fundraising	Phase 2 ongoing	Ethereum	ELONevity community depicts the heroes of the mission token: Longevity, Space and Crypto. The process will yield an Enigma, a final image that will be broken down into 10,000 NFTs. The NFTs will grant the owner exclusive access to future exclusive events and webinars hosted by Methuselah Foundation and its affiliates.
CycloTurtle NFT	 NotEssential & Beyond Coral	Community & Fundraising	Cycloturtles NFT Reveals every Friday	Ethereum	The goal is to bring together socially responsible investors through all four phases of the CycloVerse where each phase represents four core values, Longevity, Prosperity, Wisdom and Freedom. CycloTurtles Phase 1 represents Longevity.
Longevity Volumes NFT Collection	 Longevity Science Foundation & Triptych	Fundraising	2023	Ethereum	The NFT collection will act as a new donation arm to support the grants for cutting-edge research and projects. Individuals who purchase Triptych NFTs will receive donor-specific perks: access to events with top longevity researchers, unique lectures and resources from the longevity field.

Longevity Non-Fungible tokens (NFTs)

The recent advances of the NFT power impact Longevity

The Project Name	Issuers and Participants	Longevity NFT Type	The Drop Period	Blockchain	Longevity NFT Purpose	
Biopharma IP-NFT		VitaDAO & Molecule	Fundraising	2022	Ethereum	Research funded by DAO is converted into an intellectual property NFT, which allows the organization to monetize it to support future research.
Lifespan Legends		Lifespan.io. & LongevityDAO	Community & Fundraising	Early 2023	Ethereum	The Lifespan Legends are an official innovative NFT series by Lifespan.io, which raises awareness for longevity research through massive-scale PR initiatives, creates digital therapies to defeat dementia, and pioneers decentralized clinical trials to overcome the diseases of aging.
NFT Digital-Bioart		SENS Research Foundation	Fundraising	2022	Ethereum	The first-ever live-culture/auto-generative NFT artwork is tied to one of the seven damage-repair research programs. The art is generated using a system for real-time monitoring of the number of living cells in a petri dish. Proceeds from the sale of each NFT will fund SRF research and contribute to ending the diseases of aging.

Longevity DAO and DeSci

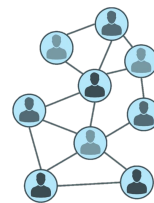
Addition profiling of DAO and DeSci technologies
implementation for Longevity

Longevity DAOs

The **Decentralized Autonomous Organization (DAOs)** is a Web3.0 idea that allows communities, corporations, or any type of collective organization to be administered and governed without the traditional top to bottom organization with a centralized authority, thanks to the ability of blockchain.



Traditional top-down



DAO

BioDAO

BioDAO leverages the power of community, decentralization, and tokenization to build a biotech economy.

The goal is to initiate 25-30 projects per year for the next five years which will result in 3-5 new therapies per year in the next 6-10 years. BioDAO will begin by focusing on funding the development of therapies and artificial intelligence (AI)-based approaches in healthcare.

Members can join BioDAO by buying up “BIO” tokens on the platform or by earning them by contributing work or intellectual property (IP). In return, the members can vote in operational and strategic decisions taken by the DAO.

CURE DAO

CureDAO is creating an open-source platform to discover how millions of factors like foods, drugs, and supplements affect human health.

The first project is a community-owned, open-source, no-code platform for health data aggregation and analysis. It will provide a basic foundational technology layer to remove barriers for physicians, researchers, clinicians, and developers of digital health applications.

Anyone can donate data, intellectual property, and program and monetize custom plugins for the platform. In return, they get a share of the revenue in tokens.

genomesDAO

GenomesDAO is a biotech DAO focused on safe, private & auditable monetization of genomic data.

GenomesDAO leverages the Ethereum blockchain to provide a transparent and immutable audit log of access to a user’s genome. Using the Genomes mobile app, users control third-party access to their DNA Vault.

Whenever a partner company, researcher or charity wants to access a user’s genomic data, the user can give their consent and receive a direct payment in the form of GENE tokens. They can even create a personalized non-fungible token (NFT) that is decorated using data from their genome.

DeSci Projects

Decentralized science (DeSci) is a global, open alternative to the current scientific system. DeSci movement aims to use Web3.0 stack to build public infrastructure for funding, creating, and storing scientific knowledge. DeSci strives to eliminate reliance on profit-hungry intermediaries and increase collaboration across the field.

Science



Web3.0



DeSci Labs builds technology that could transform how we store, access, assess, and track scientific outputs, envisioning a scientific record without data silos, paywalls, and proprietary analytics.

The goal is to design a credibly neutral and content-addressed library for interoperable research outputs that requires minimal maintenance or dependencies on intermediaries. DeSci Labs is also developing decentralized persistent identifiers for linked digital objects (dPIDs).

For quality validations, DeSci Labs builds social coordination tools to enable different approaches to peer-review.



Molecule is a decentralized biotech protocol, building a web3 marketplace for research-related IP.

Its platform and scalable framework for biotech DAOs connects academics and biotech companies with quick and easy funding, while enabling patient, researcher, and investor communities to directly govern and own research-related IP.

Molecule created a hybrid legal-smart contract primitive called an IP-NFT. The IP-NFT protocol brings rights to IP and R&D data on-chain, unifying the legal rights, data access, and economics around research projects into cryptographic tokens on Ethereum.



DeSciWorld is a community-driven initiative aiming to facilitate the on-boarding of people into the DeSci space. Funded and directed by the DeSciWorldDAO, DeSciWorld exists as a vehicle to promote and expand the culture of Decentralised Science.

DeSciWorld aims to become a starting point from which everyone should be able to dive into the DeSci space, a resource-oriented focal point for the DeSci community. The DeSciWorld Dashboard is a free-to-use online information hub that aggregates and displays information about DeSci projects in an easily digestible format.

TAKEAWAYS

Blockchain in Longevity Industry Classification Framework developed by the **Aging Analytics Agency** is a comprehensive tool for industry analysis that facilitates comparison of businesses and emphasizes the way of their operations influence on Longevity Industry.



WEB 3.0 for Longevity offer a new way to finance and incentivize research into the aging process and longevity-related treatments. Longevity DAOs provide an opportunity for individuals, companies, and organizations to pool their resources in order to fund projects that would otherwise be too costly or difficult to pursue alone. Symbiosis of longevity DAOs and DeSci organizations is inevitable and by working together, they create a powerful network of resources and expertise to help achieve goal of promoting longevity and accelerating R&D activities in this industry. Additionally, both entities can benefit from each other's strengths in terms of marketing, fundraising, and networking opportunities.



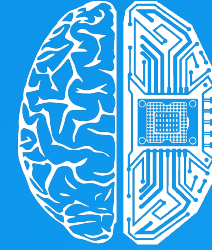
Blockchain-Powered Longevity Solutions have the potential to revolutionize healthcare by providing a secure, transparent, and efficient platform for storing patient data. This could help reduce the cost of healthcare services, improve patient privacy and security, and streamline clinical trials. Additionally, this technology can be used to track medical supplies and medications from source to destination, helping ensure that only safe and effective products are used in healthcare settings. By leveraging blockchain technology, these solutions can also help facilitate more accurate diagnoses and treatments while providing access to real-time insights into population health trends.



Crypto Tokens Support for Longevity provide a secure, transparent and automated way to manage intellectual property rights, collect funds via DAO regardless of nation-state borders and distribute it with regard DAO members opinion that facilitates patient-centered approach prevalence in Longevity Industry. Historic transaction from VitaDao to Scheibye-Knudsen Laboratory in 2021 signifies that legal and technical difficulties of smart contract research governance via IP NFT are left aside, giving blockchain technologies possibility to compete with traditional way of funding research, to bring transparency and decentralization in research and development sphere, to accelerate technological progress for Longevity and overall.



**AGING
ANALYTICS
AGENCY**



**InvestTech
Advanced
Solutions**

info@aginganalytics.com

www.aginganalytics.com

info@invest-solutions.tech

www.invest-solutions.tech

Aging Analytics Agency (AAA) & InvestTech Advanced Solutions (ITAS) Disclaimer

The information and opinions in this report were prepared by Aging Analytics Agency and InvestTech Advanced Solutions. The information herein is believed by AAA and ITAS to be reliable but AAA and ITAS make no representation as to the accuracy or completeness of such information. There is no guarantee that the views and opinions expressed in this communication will come to pass. AAA and ITAS may provide, may have provided or may seek to provide advisory services to one or more companies mentioned herein. In addition, employees of AAA and ITAS may have purchased or may purchase securities in one or more companies mentioned in this report. Opinions, estimates and analyses in this report constitute the current judgment of the author as of the date of this report. They do not necessarily reflect the opinions of AAA and ITAS and are subject to change without notice. AAA and ITAS have no obligation to update, modify or amend this report or to otherwise notify a reader thereof in the event that any matter stated herein, or any opinion, estimate, forecast or analysis set forth herein, changes or subsequently becomes inaccurate. This report is provided for informational purposes only. It is not to be construed as an offer to buy or sell or a solicitation of an offer to buy or sell any financial instruments or to participate in any particular trading strategy in any jurisdiction.