SciDex

Decentralized MarketSpace for exchange of Scientific data.

SciDex Shortened Whitepaper

In the past 30 years, the amount of data produced has increased at an exponential rate. This is due to technological changes such as the rise of connected devices and the digital transformation. By 2025 it is expected that data creation will reach one hundred and sixty Zettabytes.

However, the full potential of scientific data has remained largely unrealized and underutilized. Most organizations do not have a sense of the market value of their collected data or who could potentially acquire it. This leads to the data being forgotten as well as frozen on servers and never used again. To a greater extent, this is attributable to a lack of a streamlined way of exchanging data. A trustable global exchange platform would considerably reduce the creation of similar datasets by different parties. More importantly, it would open the gates to cross-field knowledge sharing and significantly accelerate scientific discoveries.

The current absence of collaboration and data exchange largely derives from a lack of trust in a centralized platform and between organizations due to the existing difficulties in assessing data quality. Such barriers, combined with the lack of financial and human resources as well as the complexities in legal and business compliance greatly hinders organizations to partake in data sharing.

By leveraging the greatest perks of blockchain technology and artificial intelligence SciDex strives to set a new paradigm and to build a transparent data marketspace.

SciDex is a MarketSpace offering its members the opportunity to gain access to an unprecedented collection of scientific data, as well as monetize their own data. The core product, the DataDex, is a global index for scientific data listings. Combined with powerful AI tools of the search engine, it enables users to search and correlate multiple sources of data in clusters to find trends, knowledge and causalities.

As data is never stored on SciDex, the platform fosters trust among every actor. When datasets are indexed, only the metadata and the compliance of the data is submitted, making it completely decentralized.

The quality of the data is crucial to ensure the interest and retention of data buyers on the platform. Therefore, prior to being indexed, every dataset is subject to a verification process. During this process, data curators are being provided a limited access to the datasets in order to validate the quality of the data and its consistency with the metadata. This network of curators is essential to the development of the platform and its adherence to high standards.

To ensure the growth and quality of work from the network of data curators, an incentive model is implemented through the native tokens of the SciDex MarketSpace. This tokenized economy, combined with other mechanisms, such as a ranking system and a financial subsidy model ensures a healthy and thriving organic expansion of the self governed ecosystem.

Legal and business compliance around selling the right of use of the data is often highly dependent on various regulations. Therefore, to enable data purchasing, an exchange tool using proprietary Ricardian Adaptive Smart Contracts (RASC), allows participants to buy and sell data via the native tokens on the SciDex MarketSpace, the SciTokens (SDX). The main advantage of the RASC is its ability to adapt and create a new subcontract based on the compliance of the companies involved for any exchange.

SciDex's goal is to become the go to place to acquire, sell or request any form of services and contribution around scientific data. This will not only reduce the inefficient redundancies in data creation but will empower collaboration and propulse scientific research to new heights.