

Degenics Will Be The First Anonymous Genetic Testing On Polkadot

Degenics Is A Blockchain Bioinformatics Startup For Anonymous Personal Genetic Testing

PANDU @ DECENTRALIZEDGENETICS.COM



California, Silicon Valley, Jan 20, 2021 ([Issuewire.com](https://www.issuewire.com)) - In January 2021, Degenics was launched as a blockchain-based, anonymous-first DNA testing platform, in collaboration with Blocksphere. Degenics intends to partner with projects in the Polkadot ecosystem, including KILT Protocol to incorporate credentials for the project's genetic lab & genetic products ecosystem.

The platform provides a meeting place between genetic testing laboratories and privacy-conscious genetic testing users and includes sovereignty mechanisms that ensure that genetic test results produced will remain in full possession of each individual while providing incentive-flow mechanisms for the laboratories.

The startup aims to address the global market for private genetic testing, which is worth \$ 12 billion and is predicted to grow to \$ 21 billion by 2027. (Ref: <https://www.globenewswire.com/news-release/2020/10/20/2111178/0/en/Genetic-Testing-Market-to-Hit-21-26-Billion-by-2027-AMR.html>)

"Personal genomics companies have your DNA-KYC pairs and the potential to wield immense power over you," Ms. Pandu Sastrowardoyo, initiator of Degenics, said on Wednesday. "To avoid a future 'genetic underclass' and ensure your most private data -- your DNA -- remains private, we have initiated Degenics as 'a VPN for your DNA'."

Degenics is designed to prevent genetic data misuse, privacy violations, security problems, and the practice of selling genetic data without consent. There have been multiple debates about the usage of genetic data by businesses to classify, track, or analyze individuals. This includes the usage of gene testing to calculate insurance premiums (<https://www.npr.org/sections/health-shots/2018/08/07/636026264/genetic-tests-can-hurt-your-chances-of-getting-some-types-of-insurance>), and even to hire or reject employee candidates (<https://www.scu.edu/ethics/focus-areas/bioethics/resources/read-my-genes-genetic-screening-in-the-workplace/>). Other concerns include the reselling of your genetic data to pharma companies for research (<https://time.com/5349896/23andme-glaxo-smith-kline/>), and the utilization of your DNA-KYC pair to charge your relatives with crimes (<https://www.11alive.com/article/news/investigations/the-reveal/all-in-the-family-dna-investigation/85-179895c9-1b7e-4e93-8ab4-beae25a44a79>). Another major concern is hacking: Genetic companies are already being hacked. (<https://www.bloomberg.com/news/articles/2018-06-05/hack-of-dna-website-exposes-data-from-92-million-user-accounts>)

Ms. Pandu, who currently also serves as the CIO of Blocksphere.id and sits in the Supervisory Board of the Indonesian Blockchain Association, believes that blockchain technology, along with sovereign credentials and decentralized storage, can solve these problems.

Transparency, data immutability, and decentralization allow complete user control in determining genome usage. Degenics allows users to undergo genetic testing without having to provide their name or other personal data. From the user point of view, genetic data that has been preserved on the blockchain is anonymous, sovereign, and can be reused many times.

Advantages for Genetic Labs

Degenics also allows small-scale genetic testing laboratories to join the global genetic testing market in collaboration with other labs.

Due to the Covid-19 pandemic, many labs have upgraded their genetic testing facilities through investment in PCR and next-generation sequencing. Degenics allows laboratories to repurpose these facilities to offer personal genetic testing with a “marketplace” paradigm.

Mechanism: Physical-To-Digital Bridge

To test DNA anonymously, patients using Degenics only need to take two DNA samples via the buccal swab method or take samples of oral cells with cotton swabs. Then the user accesses the dApp (decentralized app) to get genetic testing products and laboratory recommendations through a marketplace frontend of a smart contract. The user then sends their DNA sample to the laboratory, with an envelope that only has their public key and no personally identifiable information.

The chosen lab(s) then processes the sample. The results (e.g, test and genome) are then encrypted with the user’s public key and stored on decentralized storage. This allows users to maintain full control over their encrypted data -- only their private keys can decrypt these results, and only through user control may the results be reused by another lab.

The Degenics team is also planning to expand this “physical-to-digital bridge” concept to use cases outside of the genetic testing market -- which may include lab testing for diseases & electronic medical record data sharing.

Initiation and Call for Action

Degenics was initiated by Ms. Pandu Sastrowardoyo, Jean Daniel Gauthier, Gilang Bhagaskara, and Aaron Ting. It has secured initial investment for the development of a blockchain dApp, launching widely in April. Degenics is also competing in several blockchain application competitions, including the Asian Blockchain & Fintech Competition in January, and ETHDenver in February.

Degenics calls for laboratories to register for the closed beta system test via <https://degenics.com>.

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