

# Humanode Lightpaper

## V. 0.3 “Akagi”

### Humanode Core

Humanode is a network that relies on secure, biometrically verified nodes. By using private biometric verification users can set up nodes to verify transactions and participate in governance of the network without PoS or PoW of any kind. Human nodes help build a public, open financial network where people collaborate, sharing both network ownership and fees equally through a consensus-based system.

Humanode brings together various technologies to create a secure, fast, and sustainable financial network. This includes:

- Private biometric verification using advanced neural networks to verify users’ faces in 3D.
- A system to ensure users are real humans, not bots.
- A blockchain layer called Substrate with a biometric consensus module.
- A fee system based on costs.
- A decentralized autonomous organization (DAO) called Vortex to manage the network. One person has only one vote.
- A monetary policy and algorithm, Fath, that adjusts the money supply based on real value growth and emission is proportional to this growth.

Human nodes are made by confirming someone’s existence and uniqueness using private biometrics. This unique identity is like a ticket that allows them to create a node for verifying transactions and partake in governance. This way, it prevents a small group of powerful players (like mining cartels or PoS validator oligopolies) from having too much control. In the Humanode network, each person can only have one node, so everyone’s voting and computing power is the same. The rewards for verifying and storing data are shared equally among all the human nodes.

Because the ability to create human nodes isn't tied to owning a specific token, it gives us the freedom to use any kind of monetary theory without having to follow the rules of systems that protect against fake accounts based on the amount of capital you have. By using human nodes instead of tokens for security, we can make sure that the distribution of newly issued tokens is fair for everyone, whether they're validating transactions, or just holding the asset.

Anyone, from any part of the world and regardless of their background, can become a human node. All they need is a device that can do biometric checks, like a smartphone with a camera. This system makes sure that each human node is equal because it only allows one node per person based on their unique biometric identity. This way, it prevents any imbalance of power by making sure everyone gets the same voting power and rewards.

The main aim of Humanode is to create a fair and stable financial network that relies on the uniqueness of each person. We want to remove all the middlemen between a person and their ability to validate transactions. Humanode wants to make it easy for anyone to create a node and privately confirm their identity in digital services.

## **Bioauth Consensus**

Humanode is built on Substrate, a flexible platform with various protocol layers. We have developed Humanode bioauth consensus, which checks if block authors passed biometric verification of uniqueness and existence. Bioauthenticated nodes use GRANDPA and BABE algorithms.

Importantly, our biometric solution isn't just for Humanode; it can work with many other decentralized networks. We made an EVM module to run Solidity smart contracts and connect Humanode with other compatible chains. This way, we can offer private biometric processing and protection against fake accounts to applications and protocols on different chains without revealing users' identities.

## **Humanode network**

### **Cryptobiometric blockchain protocol**

#### **Substrate**

- Single-node-per-person invariant (bioauthentication consensus)
- EVM compatibility

#### **Cryptobiometrics**

- CVM - confidential virtual machines for biometric processing
- Distributed network of CVMs

#### **Cross-chain Sybil-resistance**

- Biomapping smart contracts on Humanode EVM
- Cross-chain messaging for seamless user interaction on other chains

#### **Distributed economy**

- Cost-based network fees for
- Fath as the monetary policy and algorithm targeting real value growth and proportional emission

#### **Humanode/Vortex DAO**

- Proposal pool system
- On-chain voting “Vortex”
- Formation - a tool for assembling teams onchain