

BIOSPHERE. Whitepaper

Current world situation

World Health Organization reported alarming findings: every year 7 million people die in the world due to air pollution!

Toxins that modern industrial enterprises emit into atmosphere have been even found in Antarctic ice!

Just listen to this frightening information and for a minute think about what awaits our future generation when we consciously taking away the right for environmental safety from our children today?

Global technical progress development, growing world population, urbanization – all of this brings with it environmental degradation and serious global problems in the world which over time could be disastrous. Tens of billions of tons of carbon dioxide, hundreds of millions of tons of carbon monoxide and dust, tens of millions of tons of nitrogen oxide and a huge amount of freon, toxic chemicals and dangerous carcinogenic substances are released into environment as a result of inappropriate human activity. Chemicals contained in human waste pass from one chain to another along ecological links: from air to soil, from soil to water, from water to atmosphere, etc. and as a result they enter human body. Environmental pollution includes acid rain, formation of smog and toxic effects. Environmental degradation directly affects human health! Today modern science has proved that contaminated water has already become root cause of more than half of known diseases.

Most environmental problems are of transboundary nature and their solution requires joint efforts of all countries and communities. Ecological consideration begins with each country, with each individual! Earth was not inherited from our ancestors, we borrowed it from our descendants!

Relevance

Available environmental information is not always credible, open, objective and as result public distrust is noted.

There is an urgent need in an independent resource that will be over the state level, where people will have an independent opportunity to receive reliable, transparent environmental information. An independent resource is person himself. How can we contribute to international efforts to combat global environmental problems? How can we help people to pursue information about environmental indicators on Earth on their own? Our answer is Biosphere Network.

Project mission

To provide people with an objective and independent information about state of environment around the world to preserve their health and health of their loved ones.

Project aim

To create global economically independent decentralized IoT system, namely to collect, store and supply data of objective environmental monitoring.

Project task

1. To create device (biostations) with sensors configured to identify indicators related to environmental monitoring system.
2. To create decentralized open blockchain platform with an independent environment database that would provide people with an objective information about environmental situation in their countries.
3. To create services (based on data received from platform) where people would have an access to this information anywhere in the world.

Social significance

Environmental care begins with every single person! People will gain orientation in an environmental situation that directly or indirectly affects their health, health of their relatives and friends and therefore would be able to influence and change ecological situation in the world due to obtained data (would be supplied to decentralized chain) from biostations.

Who would be interested in this project?

- Smart city
- Municipalities
- Industrial enterprises
- Local communities
- Non-governmental environmental organizations
- Services that make health applications
- Big Data Analytics
- Oracles in blockchain network

Technical part - hardware

Meteorological station is designed in format of device for self-installation by private owners both on territory of household and on exterior walls of apartment buildings.

Installation of device in fields and open to sun forest areas is permitted. It's possible to install meteorological station on drifting or unmanned water platforms.

Meteorological station is equipped with highly sensitive sensors that continuously allow to collect and transmit information related to temperature, humidity, levels of ionizing radiation (radiation), wind strength and direction, noise and vibration levels.

Information from sensors is collected continuously and transmitting device is sent to stationary or mobile computer running on Windows / Android / iOS via Wi-Fi.

Meteorological station is powered by solar battery. During daylight hours solar battery charges device and also charges Li-pol accumulator built-in in meteorological station.

For design simplicity, low power consumption (100% of work from light energy) meteorological station includes all necessary sensors, as well as the simplest controller while stationary or portable computer of meteorological station owner, tablet or smartphone is used as computing power. Computer, tablet or smartphone receives information from meteorological station via wi-fi protocol, processes it and sends it as ready-made reports via Internet to blockchain network.

Spherical shape of hull is due to initial requirements to aerodynamics or more precisely to resistance to wind loads because device is installed in open areas. Version for ground installation has a rotatable platform which allows to position solar station battery automatically (together with hull) under the most favorable sunlight. Also one of the advantages of ground version is a possibility to install accumulator of an increased capacity or an additional battery under the ground at an installation place (as shown in Figure).

Meteorological station owner will be able to design it both independently and buy a ready-made device.

Device architecture includes standard components (available on market) which will allow any person who has basic knowledge in electronics to purchase these components in his market, to make meteorological station for himself or to arrange their production for sale. Construction (circuitry) and materials specification (list of components) will be described in detail and posted on Internet for free access. Detailed video manuals for assembly will also be developed and posted. Files for 3D printing of hull elements will also be available to everyone.

In order to connect meteorological station to blockchain network owner will have to run a test case (it will also be freely available) and after successful completion meteorological station will become part of blockchain network ecosystem.

Token description

The Biosphere project will function on blockchain network basis in which its own token (bi) will be created. It will be extensively used for payment of various kinds of interactions within system.

Participants of blockchain network:

1) Miners - individuals or legal entities that buy bi-tokens for fiat money. After that miners purchase biostations with bi tokens from producers, connect them to network and load information from devices to network. They will be rewarded for this with bi tokens from information users. Obtained information from its biostation miners can use for free.

2) Consumers - individuals or entities who buy bi tokens from secondary market. With bi tokens they can pay for received information. Information can be aggregated. According to smart contract miners redistribute these tokens.

3) Corps (foundation) - founders of Biosphere, experts and mentors of project. They are holding an ICO to raise funds for project. These funds will be allocated to network development, first manufacture construction, first biostations samples production, their testing and calibration, creation of additional services, startup projects support based on the Biosphere project and certification of all other produced biostations in the future. This agent will receive revenue from selling license for bio stations production, as well as certification and validation of biostations made in other industries (network will refuse to accept non-certified biostation). Corps don't interfere consumers and miners relationship and, accordingly, don't have commission from network.

Corps also have an opportunity to accept donations from world community for project development.

4) Producers - legal entities which have received from Corps the right to manufacture biostations. They sell these biostations to miners for bi tokens and also pay bi tokens to Corps for each biostation certification. Producers also provide after-sales service.