



ETHEROS

Ethers.io Whitepaper V1.2

ETHEROS

a virtual reality world operating as a store of value based on the Ethereum smart contract blockchain.

Authors: Marcin Amgierski, Tomasz Mazur, Rafał Wróblewski, Daniel Konieczny, Paulina Czaja

www.etheros.io

April 2021, v1.2

This whitepaper is a working document that is subject to review and changes

ABSTRACT

ETHEROS is a complete, decentralized world in the form of a platform providing a social application based on the Ethereum blockchain with elements of a virtual reality (VR) game, where users (players) obtain or buy specified "fragments" of space, places, or things using the native Etheros token (ETS). The token of the application can be obtained with the Ethereum cryptocurrency and USDT (stablecoin).

Etheros is not only a decentralized platform, but also a concept for a new decentralized world where everyone can become the owner and user of any place or thing according to their own imagination. This is a world where social balance, with clear cut and transparent rules, and respect for property give a new opportunity to all people regardless of their location or social status.

Etheros imparts new digital value to every person and to everything that is created or discovered in the virtual world created in the likeness of Earth. Etheros is a representation of the world we live in, a place where everyone can get something for themselves forever.

Subsequently, each user can freely manage their space, place, and everything contained in it as well as buy and sell everything of value from and to other users. It is thanks to **this value**, built by each user individually, that their situation and the situation of many other people can truly change. Most importantly, though, each such value can be preserved as a store of value or it can be sold, transferred to other individuals or entities.

In the current, commercialized world, a lot of businesses and corporations would like to participate in modern undertakings and the need for marking their role and standing out from their competitors forms an opportunity for the owner of the given value to achieve financial gain. At the same time, it is an important image and marketing factor for such businesses and corporations, one which gives additional opportunities to derive benefits from an owned value.

Every owner of a place, space, or thing determines its purpose. At first, users obtain a square space measuring 1 km². Every such square is defined by a set of Cartesian coordinates (x, y) on a map. This applies to all continents, lands, and islands. Seas and oceans are not owned by anyone: they are the common good of all users of the entire Ethers world. Each area (square) obtained by a user is a transferable digital resource based on the Ethereum blockchain. To obtain one's own space, it is necessary to buy the native Ethers token or its part, referred to as Etos, during the initial coin offering and via decentralized protocols and exchanges. On this basis, a user can perform any activity in the application and take various actions, not available in such an advanced form before. This document presents the ideas of the creator, the technical conditions, and the economic system of the Ethers planet – a new, fair Earth, decentralized among its users.

Contents

1.0	INTRODUCTION	1
2.0	IDEA	1
2.1	REASON AND DESCRIPTION.....	3
2.2	PROPERTY	5
2.3	VALUE AND HISTORY	7
3.0	DIGITALISATION ECONOMY.....	10
3.1	STORAGE OF VALUE.....	14
4.0	PROTOCOL	18
4.1	The Consensus Mechanism	19
4.2	The Matter Mechanism	19
4.3	The Resources Mechanism.....	20
4.4	The Action Mechanism	20
4.5	The Succession Mechanism.....	20
5.0	ADDITIONAL SYSTEMS	21
5.1	The Auction System	21
5.2	The Payment System	21
5.3	The Communication System.....	22
5.4	The Identity System	22
6.0	PLATFORM ARCHITECTURE	23
6.1	2D Architecture	23
6.2	3D Architecture	24
7.0	ECONOMICS.....	25
7.1	Substitution Goods	26
7.2	Complementary Goods.....	26
7.3	Management Processes	27
7.4	Forms of Payment	28
8.0	SUMMARY	28

1.0 INTRODUCTION

Etheros provides complete solutions to store value in the virtual world known as Etheros, made in the likeness of the Earth yet including new, fair rules of community life and cooperation. Value is based on spaces, where users can take all necessary action and which allow them to make money and interact with all users of the Etheros world. Each space has its own identifier and is assigned to the given user. At the discretion of its owner, it can be retained, exchanged, transferred, or sold to someone else. In addition, the spaces allow deriving constant financial gain depending on how they are used by their owners, lessees, or other entities that manage them.

2.0 IDEA

The idea for creating a store of value in the form of a program (we would call it "an application" nowadays) appeared at the turn of 2008 and 2009 when the founder and originator of Etheros suffered from the financial crisis of 2008.

We all surely remember that time, and we felt its consequences ourselves. The media blamed greed and excessive risk-taking. However, several economists pointed out that accusing "greed" of the crisis was like blaming gravity for airline disasters. At that time, US politicians responsible for laws and regulations, developed and introduced over years by both Republicans and Democrats, in cooperation with the mainstream media said that the free market was the culprit – as usual. And that the best cure for it could be more regulation, more control, more government intervention, and more debt. It is the perfect place to paraphrase a statement by Tom Woods saying that, "everyone seemed to look for whom to blame for the destruction of the furniture but failed to notice a giant pink elephant in the middle of the living room." The elephant was the Fed and government interference in the free market.

Regardless of different opinions dividing which were the society then and which are dividing it now, we have to admit that greed was a dominant factor driving the disaster. Because of the greed of banks, many people found themselves on the verge of bankruptcy. Many understood at the time that the world as we knew it did not work as it should for a lot of societies. Our funds can lose value overnight, be squandered through investment mistakes made by banks, or be confiscated by governments to repay debts arising from the risky game of bankers. At the same time, some people also realized that the vast majority of funds available on markets are held by a small group of

individuals who are ready to speculate and risk the value of those funds in the macroeconomic perspective to satisfy their own ambitions and realize advanced financial strategies, which led to the crisis in the long run. It became clear to the originator that there was a need for a solution that would stop his funds from losing value and that, at the same time, would make them easily transferable and available regardless of the place he intended to move them to. He understood that it became a pressing need, especially due to political and economic uncertainty, a risk of armed conflict caused by the crisis or the rule of dubious political equilibrium. A solution that would allow one to easily store and restore the held funds on a computer even in the most remote part of the world. Without any risk of these funds being confiscated during border control or seized by uniformed services or individuals with hostile intentions. A solution based on a sequence of characters like a password, cipher, or code easy to remember, for instance a sentence, digits, images, or objects, retrievable from memory or through a simple sequence of symbols in the event of loss of the carrier on which the funds were originally stored.

At the time, the technology of decentralized solutions, let alone its applications, was not known and the Bitcoin itself was only starting its difficult, yet valuable, climb to become the store of value we know today. Looking in from a wider perspective, from 1998 to the extraction of the Bitcoin genesis block in 2009, even Internet access itself was not as self-obvious in some countries, including the country of the Ethers creator, as it is nowadays. The Internet was a costly premium service with transfer limitations and blockade of some ports or services. Websites solving that issue through VPN service provision were something mysterious and extra, something known to exist but not accessible ad hoc to everyone everywhere. Even the information flow per se was not as easy and widespread as it is today: search engines, discussion forums, social media, or other media are now easily accessible on a computer or a smartphone. The crisis and its aftermaths at the turn of 2008 and 2009 resulted in a strong need in the Ethers originator's mind for creating a scalable mechanism or – even better – a tool that would protect his funds in the long run against inflation, market volatility, or a crisis evoked by banks with their greedy and mindless policy. A solution 100% safe and transferable, secured with digital recording, untouched by government control, resistant to inflation, free from third-party intermediation, and relatively anonymous. Where value or its part could be easily transferred to another owner in its total available amount, limited to the level able to reflect the resources of human savings.

Unfortunately, from a technical point of view, technology was not developed enough to create such advanced tools as we know and use today. There were not enough hardware solutions and programming languages to easily visualize the idea in the form of an operative version and make it available to a large group of users. Nonetheless, that did not discourage the originator. Looking at the growing success of Bitcoin, he knew that one day his dream would come true, thanks to modern technology and programming languages not yet available to programmers in such an advanced form. In the meantime, the scale of Internet access would expand, and smartphones, becoming increasingly popular with every application released, would facilitate the implementation of the new idea for a large group of people – those interested in solutions that combine security with a store of value. The decision to create such a solution was also strongly influenced by several situations he experienced in his professional career after 2008. They strengthened his view that only decentralized funds were resistant to the global "failure" and enabled full control over his property and built value.

2.1 REASON AND DESCRIPTION

Of course, there are much more reasons for creating such a tool as Ethers, allowing securing property and preserving the value of resources: they include the ones mentioned above, such as the crisis, political uncertainty, bankers' greed, government interference, and unlimited printing of money leading to decrease in its purchasing power, inflation, and many more. However, the most important reason is the basic care for one's own financial security and future where we will be forced to survive amidst various unexpected events.

Therefore, Ethers – as a sustainable and secure blockchain-based store of value, must be characterized by certain features and meet specific technical conditions that will enable it to fulfill its mission.

One of the main features is the **Blockchain technology** itself, which ensures a **low failure rate**. DeFi (Decentralized Finance) services as we know them are built on already existing blockchain networks, which makes them resistant to failures.

With this condition being met, the next one to come is **availability**. Anyone who owns a computer, tablet, or smartphone with Internet access can use the solutions offered by decentralized applications. Interestingly enough, the IP address blocking, used in some countries, is not a problem here as secure and audited VPN services come to the rescue, provided by reputable

enterprises all around the world. These are services that have progressed very much in terms of the solutions they employ and, most importantly, they are easy to use, allowing everybody to launch them on their own literally in a couple of minutes.

Another important factor is **the quantity of financial resources** held by the given user that would allow him or her to enter the world of decentralized finance and to store his or her value there. As we all know, traditional banking often discriminates against people who are on a low income or who deposit funds in their accounts rarely. The elite of bankers determines their own rules and imposes them on whole societies. This is not a problem in the case of DeFi. Decentralized financial applications are a cheap and widely available solution and they do not discriminate against people based on their wealth, so they can easily be offered to people on exceptionally low incomes.

Yet another factor is the **transparency of transactions** in tandem with relative **anonymity**. Understanding the operating specifications of the blockchain, we know that it meets expectations in this respect. The same applies to decentralized finance, which offers full transparency of transactions and different levels of anonymity. A user can easily track transfers and changes in the network. Applications very often have open source codes, which means that their code, the language in which they have been written, is available to everyone.

Moreover, it is worth noticing another feature without which decentralized finance would make no sense, namely **the ownership of the held funds**, but in the deeply literal meaning. History clearly shows that funds kept in the bank are not ours even though this is a story we have been told for decades. Past situations demonstrated that banks and governments can strike a deal and that banking secrecy is merely good marketing trick. To apply the nomenclature of cryptocurrencies to funds kept in accounts, banks own the private keys. If any crises, bankruptcies, or situations fraught with awful financial consequences occur, only these institutions can manage the funds accumulated in accounts. Even if it were possible to withdraw funds, one could only do it to a certain limit. Not to mention the long time necessary to carry out such a transaction and limited technical possibilities to further transfer and secure such finances.

Thanks to the blockchain and applications such as DeFi, people have full control over their finances. Full in the literal, not marketing, sense of the word. This has made it possible to eliminate intermediaries and, as a result, to reduce or even eliminate additional costs. However, it needs to be

remembered that this works particularly well for peer-to-peer solutions. Decentralized finance eliminated the need for intermediaries virtually in full or strongly limited their participation, thus dramatically decreasing their number. At the same time, costs related to the delivery and use of financial products went down.

All these features combined, we get a tool with which users can easily record their value and use their property without any time constraints or third party influence.

2.2 PROPERTY

“What is property?”, one might ask. Let us start from the very beginning. In the widest sense of the word, **property** is everything that we have power over. All things we have in our keeping are described by the word “my.” My body, my mental toughness, my physical strength, my spirit – everything I can dispose of is my property.

Property also includes movables and immovables under my care. It was once thought that property includes family as well – we say “my family” – and it is true to some extent, but family is not property to be disposed of freely. In its more specific, popularized meaning, **property** is a thing that can be used exclusively by us. At the same time, the right to such exclusive use of a thing that serves us is referred to as **ownership**. In other words, the right to dispose of the given thing (which I own and which serves me) is **my exclusive ownership**. Considering all owned property, the most important contemporary property is wealth. This is what we will focus on. There is not a thing that is “detached” from its owner. Everything that exists is interconnected through sets of mutual relations. To get to know property adequately, we need to investigate and learn about the range of relations to which it applies.

All that comprises our wealth is our property, but is that so? Theoretically yes, it is, but in practice – not always. When we look at the history of individuals, groups, institutions, corporations, conglomerates, or even states, things get complicated. Wealth includes both financial assets and liabilities. However, in this case we are only interested in the assets, which include the most important type of wealth – non-current assets.

Non-current assets include tangible assets, e.g. lands, buildings and building structures, plant and machinery, equipment, means of transport etc.; intangible assets, e.g. concessions, patents and trademarks; financial

assets, e.g. shares in other economic entities; long-term receivables, e.g. securities; long-term investments; or long-term prepayments, e.g. granted loans.

There is also another type of wealth, known as **current assets**. They include inventories – e.g. materials, finished products or traded goods – short-term receivables, claims, or investments, including cash at bank and in hand, as well as short-term financial assets. Current assets are an important part of property as they allow passive income in many cases.

Yet another type of wealth is **wealth in legal relations**. This is a key matter as it allows us to determine what will happen with our wealth in specific situations. The notion of wealth in legal relations is significant in the case of such legal institutions as succession, that is what happens with wealth if a natural person dies or a legal person goes into liquidation. Another example of a legal institution is management, e.g. parents manage the wealth of their child.

Understanding the abovementioned three types of wealth is key to understanding and defining property and what should happen to it in specific life situations.

The entire notion of property would make no sense if there was no place where such property could be used. What should such a place be then? How to describe the perfect sphere containing the property of all people? The answer is right there under our feet. The first such place known to man for millions of years is the Earth. The Earth as a celestial object is home to all feeling beings attracted to it by the force of gravity. The Earth is the mother who gives life, protects, feeds, and creates opportunities for growth and possession. However, the Earth could not be if not for a higher power, known in many a religion and culture as the Creator. A similar thing applies to man. If not for people, nobody would care for wealth as we understand it. It was man, called by the Creator to manage the Earth and everything that it contains, who was put at the top of the hierarchy to form and manage everything that exists and is created. Man participated in the creation and management and was put as equal to the Creator. Humans are fully responsible for everything that they possess. In a way, they have become partners with the Creator in management. Unfortunately, considering the contemporary world, relations, and rights, certain individuals and – in particular – governments treat that privilege too literally, claiming the right to

manage things owned by others in financial situations or circumstances which entail the risk of losing the owned property.

A question now emerges: can we protect ourselves from it? Is there another sphere where it would be possible to store the property of all people? Is it possible to create another Earth with clear-cut and transparent laws and fair rules of ownership? Laws guaranteeing the security of the owned property by way of protecting it with digital recording against influence, manipulation or capture by other individuals, entities, groups, corporations, or governments? The answer is a resounding “Yes”!

This is the function of Ethers – a new, digital Earth where you can store your property with the possibility of succession without the risk of losing it for the benefit of any third parties. The solution is founded on the blockchain, a distributed network of digital entries, unprofitably difficult to modify or disable. Here we should mention and thank the creator of the blockchain, who started the whole idea of improving the world through decentralization. That brilliant creator was Satoshi Nakamoto, responsible for creating the first, and the largest, blockchain-based cryptocurrency known as Bitcoin, the value of which keeps growing – and there are no indications of this state of affairs changing anytime soon.

2.3 VALUE AND HISTORY

To grasp the concept of **value**, we have to first understand where that word comes from and which discipline of science it dominates. Value is one of the fundamental categories of science called axiology: the science of values, which defines everything desirable, worthy, and precious to every human being – in short, the goal of human aspirations.

Value is not an unequivocal or evident concept. There are quite a few outlooks on this issue, represented by the different studies and musings. Many sciences have set themselves the goal of defining the concept of value, reaching out to its roots and defining its typology. The very word “value” occurs in the literature under other notions, such as attitude, need, or goal. Depending on the individual, his or her beliefs, and set goals, the given values can be positive or negative.

According to economics, value is a **feature of a thing** which can often be measured in money, a feature that is seen as more or less desirable and useful. Value is attached to goods and economic phenomena. When determining their value, it is crucial to define the economic time, otherwise

known as operational time, of the course of these phenomena in an enterprise. However, economic time is not matched with physical (clock) time.

Over the centuries, there were many attempts to define the essence of value. Already in antiquity, Aristotle tried to understand why some goods have a high value and others – a low value. In economics, there is the so-called diamond-water paradox: why are diamonds expensive even though you can survive without them, while bread and water are cheap even though life without them is impossible?

In later times, namely in the Middle Ages, value was pondered over to little extent. Later still, to develop the definition of value, a system known as mercantilism was created, which put the issue of wealth in the center and used a simple method of description according to which value happened in the circle of circulation. Commodities bought by a merchant in the marketplace were transported to a different place and sold with a profit. Circulation increased value. Hence the simple conclusions of mercantilists that internal trade is unprofitable, and external trade creates value.

Today, in the day and age of decentralized finance, we can say that those opinions have lost their meaning. In the case of decentralization, the market of recipients and the location per se do not matter. All digital goods owned by a user and having a certain value can be moved from one place to another regardless of the location of their recipient.

Let us go back to the past once more. The emergence of classical economics in England marked the foundation for future schools and theories of economics. Its creator – Adam Smith – devoted a lot of time to the concept of value. He endeavored to determine the actual yardstick of **value in exchange**, factors shaping price fluctuation, or component parts of price. He was one of the few that told the difference between the **value in use**, understood as the utility of a thing, and the value in exchange, understood as the ability to mutually exchange commodities. Focusing on the value in exchange, he formulated two value-related concepts, i.e. **the quantity- and cost-based concept of value**.

Another individual working on interpreting value was David Ricardo, who defined it as **the amount of work required to produce a commodity**. He claimed that utility cannot be the yardstick of value in exchange even though it is its inseparable condition. At the time of scientific socialism (19th

century), creator Karl Marx made the theory of value the foundation of his economic system. The commodity was the basis, commodity understood as the product of human labor intended for exchange. The value in use and the value in exchange found their reflection in the dual nature of the commodity – its concrete aspect and its social aspect. Marx based his theory of value on labor, modeling it after the first concept of Smith. However, in his theory, it was not labor but **labor power**, that is the capacity to do work, that was the object of sale and purchase. Labor power was a unique type of commodity that could create more than its own worth. The beginning of the 1870s saw the emergence of the subjective and marginalist current, which entirely shed the theory of value based on labor. William Stanley Jevons stated that labor done in the past cannot define the value in the present. He also refused to agree with the concept that labor creates value in and of its own. Subjectivists in that current, led by Carl Menger, developed a theory according to which value emerged on the market as a result of subjective evaluations of the utility of a commodity carried out by a consumer. Subsequent currents and schools started to support the theory of value with costs. In his theory, Alfred Marshall combined the definition of supply and demand, the theory of utility, and the theory of production costs.

In modern times, economics does not pay so much attention to the issue of value, but it tries to focus on pragmatic solutions in the area of economic policy instead. This is, in fact, a mistake considering the wide spectrum of needs of contemporary young people, who can define value through decentralized finances. Therefore, valid remains the question of what is the essence of economic value, thanks to which it is possible to secure such basic needs as our survival and financial situation. Classically speaking, value most often refers to assets as they can provide investors with free cash flow. In the standard definition, value is the amount of money which the investor would like and is ready to pay – or invest, to put it in more modern terms – in exchange for future profit. Economic value is also often referred to as the current value, market value, commercial value, use value etc. Within the scope of accounting, it requires the formulation of frameworks defining the value determination procedures that will ensure the comparability and reliability of information.

As part of the blockchain, the required factor able to define the meaning and proper value are the quantity of the given asset as present on the market and held by individual owners as well as its utility and reliability in operations carried out between recipients.

3.0 DIGITALIZATION ECONOMY

We are witnessing a digital revolution leading to a radical reduction in the costs of storage, processing, and transmission of information, which transformed the way economies operate. Over the last 20 years, investments of enterprises in ICT (Information and Communication Technologies) have raised the GDP of many countries by tens or even hundreds of billions of dollars. This is only a fraction of benefits derived by customers who spend countless hours every year comparing offers, buying goods, reading free information websites and blogs, and using social networks as well as establishing cooperation or settling liabilities, transferring their funds, or securing their savings through new channels for storing value. However, in many countries, such changes happen too fast to be followed by the law, formulated with traditional user-enterprise-service relations in mind, not platforms that connect a user directly with another user without an intermediary. The blockchain proved that this is not a problem as it creates a separate being, so to speak, in the economy, one that is not subject to specific national bodies of law or single regulations introduced by the given country.

In its report titled “Digital Dividends,” the World Bank discusses the benefits and challenges brought to the global economy by the currently unfolding digital revolution. Implementation of new technologies is the crucial determinant of economic development and, in turn, our standard of living. Rapid economic growth is a relatively recent phenomenon – up until the 18th century, it was unnoticeable over the lifetime of a single generation. The period necessary for the doubling of the GDP per capita took longer than 1000 years. The situation changed along with the industrial revolution – in the 20th century, the GDP per capita doubled every 30-40 years in developed countries, which meant that the measure could increase up to 4 times within the lifetime of a single generation. New digital technologies are spreading in the world much faster than the inventions of the industrial era. It took 30 years for electricity to reach the first 10% of households in the US; landline telephones needed 25 years to achieve the same; and TV sets, personal computers managed to do that in 10 years. Tablets needed only 2.5 years (De Gusta, 2012). Technology is gaining momentum not only in developed countries, but also in developing ones (World Bank, 2016). For example, the full deployment of steamships in Indonesia took place 160 years after their invention; in Kenya, electricity was put in place 60 years after its discovery. However, Vietnam needed only 15 years to introduce computers and merely several years to introduce mobile phones and the Internet. Computers,

mobile phones, and the Internet are examples of the application of ICT – a vast set of technologies allowing storage, processing, and transmission of information. While the industrial revolution of the 19th century allowed a cheap and mass production and transport of concrete commodities, the current transformation is leading to a dramatic drop in the costs of processing, storage, and transmission of information. Although ICT technologies are spreading in the economy much faster than the inventions of the industrial era, we are still discovering their new applications. For this reason, 72% of the economists participating in the last forum organized by the European Central Bank in Sintra in 2017 determined that the impact of ICT on productivity in the upcoming years would go up. As far back as the 1930s, later Nobel Prize winner Ronald Coase noted that the purchase price of a good is not the only cost to the purchaser – to this should be added, among others, the time needed to find the commodity or to gather information about it. It is also a cost to contractors to negotiate the terms of exchange and enforce them later on. The industrial revolution made it possible to produce and supply goods more cheaply, and the ICT revolution made it even easier to find a product we like or a service that meets our expectations.

Currencies are standardized, mass commodities and they show very well how the Internet enabled reduction in the transaction costs. However, the traditional currencies are burdened with a lot of faults, which have been eliminated by cryptocurrencies. Remote exchange of commodities or services between strangers could develop to a large extent thanks to many innovative safeguards developed by – among others – popular auction websites, with the system of opinions concerning contractors at the front. Nevertheless, this model does not solve all the problems. There is still a third party involved who can modify the given opinion for the benefit of another party. In addition, such an intermediary can have access to the given transaction or even block or reverse it using a payment platform that cooperates with him or her even months from the purchase date (the notorious Paypal, hated by many).

Auction websites and online shops are part of a larger phenomenon of online platforms based on the **reputation mechanism** – but they still carry the greatest weakness of such platforms: trust in third parties. Bringing together potential buyers and sellers in one place on an online platform can bring economic benefits. A similar mechanism worked in the Middle Ages, where merchants travelled long distances and met at fairs and markets to sell their commodities and buy others.

The processes associated with the development of online platforms, namely low search costs, the reputation mechanism, and economies of scale paved the way for the development of the sharing economy, that is a distributed use of resources that would otherwise not be utilized. Thanks to them, we can rent out our apartment when we go on longer holidays so that it does not stand empty or take an additional passenger in exchange for fuel cost coverage when we drive somewhere. Examples of the commercial success of online platforms include Uber and Airbnb, companies valuated – according to the latest estimates – at 68 and 31 billion dollars, respectively. Uber took advantage of the platform model and introduced many innovations (automation of payments, ability to control the length of the route, decentralization of quality control, or automatic pricing of the journey based on demand); as a result, it managed to increase the productivity of its drivers by up to 30% compared to traditional taxis, forcing taxi corporations to modernize their operations and implement their applications. Airbnb, in turn, allowed its users to use empty apartments, which led to profits not only for their owners and consumers but also for the local economies. A study based on Texas found that the development of Airbnb, having a positive effect on the market competitiveness, carries other positive side effects with it – the growth of tourism and, in consequence, the creation of new jobs. Sharing economy deals with commercial transactions, but not only. The Internet has also allowed the spread of many cost-optimizing solutions, such as sharing travel costs – Blablacar is a platform that connects people travelling in the same direction and allows them to share their travel costs and use resources that are not otherwise utilized – unoccupied car seats in this case. Couchsurfing is another good example: it matches users who need a place to sleep with prospective hosts – paid membership verification aside, the only payment here is company and the prospect of hosting other users. The enthusiasm evoked by ever newer innovative applications of modern technologies based on the Internet seems to be contrary to the macroeconomic data, which are warning of a slowing down rate of economic growth in developed countries. Some researchers point out that the rate has not slowed down, and that the efficiency of enterprises owned by leaders implementing innovations is growing as much as it did in the past. However, innovations spread over the entire economy much more slowly.

Another issue worth looking at includes problems related to the measurement of benefits derived by consumers from new technologies, ones which elude the traditional indicators of economic activity. It is very difficult to estimate the impact of digital technologies on the economy. It is easiest to determine

the added value created in the sectors directly related to these technologies. However, the task becomes more complicated when we want to estimate the contribution of ICT investments to economic growth or the value of the Internet for its users. According to McKinsey's estimates (2011), approximately 75% of the productivity growth associated with digital technologies occurs in traditional sectors not directly related to ICT – for example, airlines in the US, thanks to better ticket reservation systems, were able to increase the occupancy rate of their aircraft by one third between 1993 and 2007, and UPS, using algorithms that minimize left-hand turns, is able to save 4.5 million liters of fuel annually.

Therefore, many observers will argue that the full use of digital technologies in the economy by the private sector requires a favorable regulatory environment from the public sector in the first place. Moreover, many regulations applicable today were formulated with traditional enterprises in mind, so they are not compatible with a digital reality and warrant a change. The same services (e.g. voice calls or text messages) are subject to different regulatory regimes depending on whether they are provided by traditional or technological companies. It is, therefore, worth drawing attention to the fact that such regulations intend to benefit a small group of strictly defined individuals, not hard-working societies as a whole. Digital technologies, particularly the blockchain, were created to serve ordinary people – who are not tied up in a global network of large corporations and their huge profits – and to improve their wealth status.

The current tax and saving system, based on outdated, traditional, and regulated principles, does not fit in the reality of modern, decentralized online platforms connecting the owners of the given asset directly with its buyer. This situation is unlikely to change. That is why the blockchain was created, and the idea of decentralization says precisely that no one except the owner can control the assets they own. The digital revolution, brought about by the blockchain, can help all those that are discriminated against and excluded by the system because of their wealth status, thus allowing them to use a wide array of solutions and data to make their property more secure.

Last but not least, it is worth mentioning the role of **trusted third parties** in the economy and the related threat. However, before we proceed, we need to introduce the following notion: **information asymmetry**. It describes a situation where one party knows much more about the subject of a transaction than the other party. In 1970, George Akerlof won a Nobel Prize in Economics for describing such a case on the example of a used car market. In his example, sellers of used cars have much better information than their

buyers. The sellers know the value of the car they are selling, while the buyers know only the average price of used cars. As the buyers do not possess the knowledge of the car's quality, they are inclined to pay a price corresponding to the average quality of used cars. However, if the buyers are inclined to pay for the average quality only, it is no longer profitable for the sellers to sell cars of higher quality. When the sellers withdraw used cars of good quality from the market, the average value of used cars goes down even more and the buyers are inclined to pay even less. As a result, we reach a situation when only a few low-quality used cars remain on the market. It might seem that a third party would be the solution here, but it is misleading.

From the example given above, we can infer that the company offering reports on the condition of cars being purchased meets all the requirements of a trusted third party. However, this is a misleading approach. The report itself, not supported by any evidence or history gathered from the very beginning, is not worth much. Moreover, it could be modified for the benefit of the seller. Thus, the buyer is in a hopeless situation because he or she is unable to verify the accuracy of the provided information. Of course, a natural solution would be to employ the blockchain registering all events related to the product, but it would result in limited gains for a lot of enterprises. The lack of knowledge raises the price in this case. Therefore, using a trusted third party does not limit the issue of information asymmetry in every instance.

Another example could be a situation concerning the purchase of an enterprises where a potential buyer's neural network can access the company's internal accounts. The network can return a simple answer of "Yes" or "No" without revealing any confidential data. Its memory can be erased eventually. Here, too, the solution is the blockchain, through which it is possible to examine 100% of the history of the asset being purchased.

3.1 STORAGE OF VALUE

In the context of the storage of value in general as well as in the context of a place for keeping wealth in turbulent times, the following term is used: "**safe haven**." We could hear the term quite often towards the end of the last decade. When financial markets slipped into a crisis, investors started to panic and were desperately looking for instruments in which they could easily deposit their funds so that they did not lose value. Now, difficult times are upon us yet again and the topic comes back and has become one of the most pressing ones. Which assets deserve to be called "safe havens?" Which ones

meet the requirements for easy transferability or full ownership at the same time? Before we answer that question, let us start from the basic issues.

What are “safe havens?” A safe haven is an investment aiming to preserve or increase its capital in times of a financial market collapse. It is associated with risk aversion among market participants. They regard the given values as so strong that they do not want to sell them in difficult times, contrary to the shares of the largest corporations. Safe havens are not highly volatile, so they do not yield significant profits during a bull market, but their key feature is stability. What else is characteristic of these instruments?

First of all, **reliability**. They can be cashed and converted into currency under any economic circumstances. Safe havens cannot become worthless. This feature is perfectly met by some currencies or the most popular noble metals. This changes, however, during economic uncertainty. Safe havens confirmed their value many a time in difficult situations in the past. This means that their exchange rate was strengthening during the previous stock market crashes and financial crises. The most commonly known value meeting this feature is gold, of course.

Another important aspect of safe havens is the **certainty of the future**. The given assets always have to have long-term demand ensured regardless of the situation in the world. What is more, supply should never exceed that demand. In the case of cryptocurrencies, such as Bitcoin, or tokens, such as Ethers, their specific quantity is a key element thanks to which the value of a token can be increased over time. In addition, we can be sure that thanks to its features determined in advance, the given asset will prove equally useful in the future and it will not degrade or turn obsolete. As we know, the blockchain eliminates this problem. The effectiveness of the blockchain has been confirmed numerous times. Therefore, investors are more and more often treating the dominating cryptocurrencies and tokens that meet certain technical conditions as natural safe havens. Looking at the traditional assets known for years, we can say that similar conditions are met by gold, silver, or copper. This results from their limited resources, similarly to tokens, and from their timeless applications. However, in the case of metals, there is a problem with redundant additional costs. Physical storage of metal generates charges which are outright unnecessary. The most popular way to store metal is a safe deposit box. Few bank divisions, usually those located in larger cities, let their clients use miniature safes for the keeping of their valuables. Clients can choose from cases and boxes. The difference between them is slight, but the box ensures better security as it is fixed to a reinforced wall of the building. In both cases, rooms are strongly protected, and they have an

around-the-clock surveillance system in place. In the case of self-service safe deposit boxes, the user can theoretically open them any time he or she wants. In theory, "only" the user or a person authorized by him or her can access the box. However, all that security – which is provided by the blockchain just like that – costs quite a lot. A charge for the rental of a safe deposit box in a bank depends on its size and duration of use. The larger the box, the higher the cost. The longer the time of use, the higher the charges. In the case of a medium-sized box, the annual cost may range from several dozen to even several hundred dollars. Please note, though, that the bank imposes other additional charges as well. How much metal can you put in such a box? Surely not as much as in a cryptocurrency wallet. Moreover, despite the application of all those safeguards, the bank exposes us to the risk of loss if there is a burglary. A similar situation would happen if we decided to keep our precious metal in a private safe, the price of which is quite high anyway. Another problem would be the transferability of precious metals. Because of their features, metals take up a certain volume and have a specific weight. Moving them from one place to another and protecting the previous commodity requires the owner to expend certain work and generates additional costs. In addition, the risk of loss of valuables occurs when they are transferred from one country to another. What is more, there is a requirement to declare the number of own means, be it in the form of money or precious metals, that are moved across the border. The quantity of precious metal or money that can be thus transferred is strictly limited. Exceeding that limit more often than not results in problems and uncomfortable questions. What is worse, the given country has the right to interfere with the personal matters of the owner to explain the origin of the valuables and the right to own them. In the worst-case scenario, such property can even be confiscated if the owner, even if not at his or her fault, does not have all the required documents. Such an oppressive approach which interferes with our ownership has become a norm in many countries and is not seen as wrong at all. Also in the case of unexpected political turbulence or social crisis, the mobility or security of precious metals becomes doubtful. Again, this situation includes the risk of loss or confiscation of the metals on the pretext of fighting for freedom, which has its price. Nowadays, there are still countries out there where the wealth of an individual can be taken away by the rulers in the case of war or fighting an aggressor.

Another factor determining the strengths of the given asset is **how it is calculated** in terms of specific actions. The lack of ease of division or possibility of easy conversion during numerous transactions between the

transaction parties raises new obstacles, which, so to speak, disqualify precious metals as the ultimate safeguard in case of complications covering entire countries or economies.

Therefore, contemporary investors are starting to see that precious metals are not the perfect safe haven currently. The digitalization of precious metals, such as gold, for investing purposes would make sense and has already occurred in the area of the blockchain to some extent, but it has a different name and – similarly to gold – it is limited to a specific number. Moreover, many experts who do not understand the complexity and advantages of the blockchain negate digital gold, which – by the way – is one of the forms of the blockchain and one of the most consistent assets that could replace the traditional precious metal, i.e. gold. Cryptocurrencies and tokens used in specific projects, such as Ethers, are a perfect example of securing value with the possibility of full transfer regardless of the circumstances or the location.

In keeping with the comparison to noble metals, one might say that good blockchain-based solutions and the cryptocurrencies and tokens used in them are the noble metals of the 21st century, fully digitalized and supported by millions of investors. Ones that have their own diverse platforms where they can be bought, traded, or transferred. Another strength of those is the ease of their management, memorization, recording, or restoration without physical access to the place where they were originally stored. This is a strength surpassing the traditional assets with its sophistication. Therefore, a growing number of investors understand the benefits of these solutions and if a crisis occurs, they can verify whether they have made a good investment decision. The Ethers platform and solutions underlying it are a perfect example of a place for storing value which does not suffer from the disadvantages exhibited by the traditional assets available on the market.

4.0 PROTOCOL

The Ethers platform is based on a protocol consisting of 5 mechanisms:

1. **Consensus Mechanism:** Spaces as a whole belong to their owners. They are the ones who decide their purpose and are the first to have the right to vote.
2. **Matter Mechanism:** The given space consists entirely of matter. The owner has to choose which model of matter will be created – real or virtual.
3. **Resources Mechanism:** Spaces contain hidden natural resources (just like in the real world). The resources are based on digital assets. Owning a space gives the right to explore, extract, obtain, transfer, or sell the resources.
4. **Action Mechanism:** Users can undertake all private and commercial activities in a world based on a 2D and 3D Architecture.
5. **Succession Mechanism:** At any given time, space owners can appoint a successor who will manage their spaces after they are gone.

Additionally, the mechanisms of the Ethers world are complemented by an infrastructure of the following systems:

1. **Auction System:** If several users are interested in a new free space, they can participate in an auction to acquire rights to that space fairly.
2. **Payment System:** It aims to allow paying for all goods and services exchanged between parties, with emphasis put on maintaining the lowest transaction fees possible.
3. **Communication System:** Users can make direct contact with each other.
4. **Identity System:** Users can create their own identities based on the spaces, resources, and goods that are at their disposal.

4.1 Consensus Mechanism

The spaces making up the Ethers world, i.e. squares of 1 km² each, are dependent on their owners, who manage them and determine their purpose. The number of all 1 km² spaces, and thus the number of tokens linked with the spaces, corresponds to the size of the Earth's surface area, i.e. 148,940,000 km² of land (29.2%). The application of the commonly used multiple of the meter, the SI base unit for length, does justice to the scale and range of the Ethers world. In some parts of the world, other units for measuring length, such as miles or yards, or units for measuring area, such as square feet or acres, are in use. Therefore, for ease of use and universality, the most convenient form of surface measurement is the square meter and its multiple, i.e. square kilometer. A purchased space, of the abovementioned size, will be linked with the owner's wallet supporting ERC20 tokens, and it will be assigned a private key as the second safeguard of property. Spaces can be purchased with the native Ethers token (ETS). A user selects the space he or she is interested in and swaps his or her Ethers token for it. As a result, the user acquires full ownership of that space. The sold tokens can be repurchased and used by lessees and entities interested in cooperation with space owners. The tokens are transferred to a pool used to purchase goods and services in the Ethers world. According to the owner's will, a space can be divided into smaller parts to be utilized by more entities. The entity which has acquired the ownership of the given space can then sell it back in its entirety. At this stage, the acceptable forms of payment are Ethers, Bitcoin, and Ethereum.

4.2 Matter Mechanism

Matter makes up the visible world. The entire space surrounding us is composed of matter. Each user who is the first to acquire the given space can select the model in which it will be created. Once selected, the matter cannot be changed. In the case of the real model, elements visible in the real world will appear in the space. Depending on the location, these can be natural objects, such as lakes, rivers, mountains, forests, deserts, savannas, steppes, and other geographic features, or entities exhibiting human participation, such as states, cities, settlements, or regions with real property, infrastructure, and other elements present in the given area. The virtual model allows shaping space freely. In this model, the visible space boils down to the "bare" ground or the geographic object present in that place on the planet. The given space allows exploration, creation, planning, and construction of any objects as selected by the space owner or the user with whom he or she cooperates. Space exploration tools and objects to be constructed will be available in the user panel via the Action Mechanism.

4.3 Resources Mechanism

Natural resources such as platinum, gold, silver, copper, etc. are a significant part of the real world. The same goes for the Ethers world. Each space owner can explore his or her space to find natural resources hidden inside. These resources will serve to create other objects, goods, and services available to all users. The resources found in the Ethers world are located in actual historic places, known to the people living on Earth. The first space owners (the rule of "first come, first served" applies here) have the best chance of acquiring valuable areas to become providers of resources to other users. This will allow the achievement of permanent profit with low investment outlays, which will come down to the costs sustained by the owner to purchase the space. The process will unfold as long as there are resources available, according to historically confirmed quantities. The resources will be settled between users using the Ethers token. The mechanism will also include the possibility of discovering digital resources, such as cryptocurrencies, in the given space, one randomly assigned to different places. This is an added bonus that gives the opportunity and enables the owners to compete fairly.

4.4 Action Mechanism

Thanks to this mechanism, users can take any action that is available in the Ethers world. It is composed of the main element: digital management of property and communication, but it allows – to a great extent – playing a game for interested users. This mechanism enables to extract resources, design a space, build various types of objects, discover new places, explore new places, examine found objects, acquire and sell anything that has any value and can bring profit to the space owner, buy or rent the necessary elements or tools, produce specific goods, advertise companies, corporations and other entities on your property, license access to specified resources or services in a given area, collect e.g. paintings or other original unique goods, rent and lease out space, arrange meetings not available anywhere else, and many more. Everything depends on the creativity of the user (player) in the application.

4.5 Succession Mechanism

Through a smart contract in the Ethereum network, an owner will be able to grant an individual, a unit, or an entity the full right to acquire his or her property after he or she is gone. That individual, unit, or entity will manage that property as the rightful owner and will determine its further destiny. In

addition, apart from the smart contract, the successor will receive a unique private key linked with the Bitcoin address, which is the second safeguard of his or her inheritance in case of incorrect authorization after years through the smart contract in the Ethereum blockchain.

5.0 ADDITIONAL SYSTEMS

An additional supplement to the mechanisms of the Ethers world is the infrastructure of several systems which provide complete functionality for users.

5.1 Auction System

A user chooses any space and places an order for it (the Bitcoin network time is taken into account). If there are no other interested parties, after two successive Bitcoin blocks (roughly 20 min), the payment takes place, and the space becomes the user's property. If more people are interested in one space, an auction is organized. The last highest bid affirmed by the confirmation of two successive Bitcoin blocks (roughly 20 min) allows the bidder to acquire full ownership of the space.

5.2 Payment System

The payment system in the Ethers world plays a key role in settlements and allows the users to conclude mutual transactions. With this system, users can make purchases directly between themselves. To a great extent, this applies to resources, goods, and services discovered, produced, and provided to the community that together makes up the Ethers world. The main payments, such as the sale and purchase of space, will be made on the blockchain, taking into account blockchain fees. The other transactions, which can be treated as micro-payments, will take place through an internal system. This works in a similar way to cryptocurrency exchanges, where internal transactions are handled by the exchange and the main transfers are transmitted onto the blockchain. To achieve the lowest possible transaction costs, the system is based on an internal ledger build on the Lightning network. Payments are settled instantaneously and the fact that they are transmitted in the main Ethereum blockchain allows users to transfer their funds outside the platform. As a result, they can settle transactions directly without the risk of identity disclosure.

5.3 Communication System

Users can establish direct contact between each other with an instant messenger built in the application. The messenger allows them to form relationships, enter into alliances, carry out negotiations, agree on terms of cooperation, and take other action facilitating collaboration.

5.4 Identity System

Thanks to the decentralization and the specific operating nature of the blockchain, each identity meets the requirements of anonymity to the maximum extent, and a user can change it independently, adding information as he or she pleases. The user determines the amount of information visible and added in his or her profile. Adding new information is not necessary (KYC verification is not required either). This is an additional option for the entities which would like to mark their presence in the Ethers world. The function can be useful for public entities or companies, or individuals who do not value anonymity that much.

6.0 PLATFORM ARCHITECTURE

The platform architecture is based on several programming technologies. The fundamental vectors of programmers' interest are security, efficiency, decentralization and intuitiveness.

6.1 2D Architecture

The visualization of the Earth through a 2D layer with small space fragments based on a 3D layer is a crucial starting factor in the creation of the Ethers world. It is this layer that allows users to see the range and availability of individual fragments that can be acquired and managed. The visual layer will be available in the web browser and the mobile application and will allow browsing the cartographic grid, obtaining information on specific spaces, identifying the coordinates, determining areas, and visualizing the globe. The layer will be based on the C++ language, which has been the most reliable language for many years and which is one of the most popular programming languages among programmers. In addition, the layer will be supported by Javascript as the second main programming language, responsible for instance for the platform front-end, API, or various complicated interactive elements such as two-dimensional and three-dimensional animations, maps, or specific events as well as the presentation of content personalized for the given user. Certainly, at this stage the 2D layer will be, to a lesser degree, supported by HTML, CSS, and the "Go" language made by Google, which has recently been gaining ground at a high rate. Interestingly enough, the Go language stems from the same language family as C, C++, or Java, which means that its syntax is similar enough for the programmers knowing the above languages to learn it quickly and effortlessly. The Go language contains a lot of automated solutions which must be programmed by the creator manually in other languages. In the case of microservices, so prevalent in today's Internet, it is not the computing power that is the bottleneck, but the bandwidth and communication between components. In Go, communication management is built in the language itself, which renders the given project much easier to scale. The built-in support for concurrent computing is one of the chief arguments for choosing this language (apart from C++). This works mostly in the backend area, e.g. when computing a high number of queries from GUI for further configuration. Static typing is yet another significant aspect (which works better than dynamic typing in Python), which gains importance for the legibility and later project maintenance in the case of projects containing thousands of lines of code.

At this stage, the 2D Architecture will allow integration with a user's wallet. The architecture will enable a user to enter into possession of the given space by selecting it on the cartographic grid of the globe and buying it with an

Etheros token based on the ERC-20 standard. Wallets of all sorts (supporting the Ethereum blockchain) that work in integration with a user's web browser are supported – mainly web browser wallets, but also desktop, mobile, and hardware wallets. The web browser wallets are, nevertheless, recommended due to their availability and price. One of them – reliable, the most popular, yet free – is Metamask. A team of programmers, refining their craft for years, ensures the functionality of and support for decentralized applications working on the Ethereum blockchain without the need for running a full node.

6.2 3D Architecture

The explorable space in the Etheros world has to be based on reliable technologies developed for years. The key aspect here are programming languages and a computer game engine that will make it possible to develop versions for various platforms. In this case, Java will be the dominating programming language. A huge advantage of Java is the fact that it keeps growing even though it is more than 25 years old. At the first stage, users will have access to the Etheros world through their web browser and mobile application (based on the Unity engine). Later, the Unreal Engine will be implemented, which will allow the development of a dedicated version in the form of a game for Windows. As the creators of the Unreal Engine implemented a mechanism supporting multiple platforms, it will be possible to make the Etheros world available on other platforms, such as Linux, macOS, PlayStation, Xbox, or iOS. A significant aspect is the launch of Virtual Reality (VR), thanks to which users will be able to put on headsets and experience the Etheros world even more sharply, which will enable them to develop and use the value built by themselves to the fullest. Showing the Etheros world is of utmost importance in the context of conveyed messages and receipts both for users and for investors. The crucial stage of the 3D architecture will enable fundamental activities to be undertaken in the full virtual world, including mining resources, designing space, building various objects, discovering new places, examining found objects, acquiring and selling anything that has value and brings certain benefits to a space owner, buying or leasing the necessary elements or tools, producing certain goods, advertising enterprises, corporations and other entities in one's property, licensing access to given resources or services in the given area, collecting such items as paintings or other original unique goods, leasing out facilities, organizing meetings unavailable elsewhere and many more.

7.0 ECONOMICS

The economics of the Ethers world plays a key role in shaping how the world will work and what benefits it will provide to its users. Most of all, the mere possession of space over time gives measurable benefits in terms of securing one's value. The possibility to gain additional profits from actions taken in the world in question is yet another advantage speaking for active participation and building of one's position. However, to understand this phenomenon, we have to focus on the essence of economics – what is it exactly? Economics is a science dealing first and foremost with the investigation of human business activity. It examines how people manage things of value or what choices they make to obtain the most of the yield they expect to get from what they have and from limited resources. It also investigates the criteria and principles leading to the achievement of the expected outcomes. From the traditional point of view (as we understand it in the real world), we can divide economics into two categories:

1. **Microeconomics** – where users focus on decisions made by themselves and by the individual entities which pursue management together with them. As a result, in this world, microeconomics deals with the following aspects: economic choices made by individuals and economic entities, the workings of, for instance, their cooperation and relations as well as analysis of the impact of prices on recipients and of the scale on which they operate.
2. **Macroeconomics** – which concentrates on the workings of the economy as a whole. Unlike microeconomics, it deals with collective quantities, which do not pertain to a single user but an entire economy made up of all space owners together with the entities cooperating with them. Macroeconomics combines it all into a single whole, but it also provides tools allowing the entire Ethers world to develop.

The economics in the virtual world consists of many factors, thanks to which realization of plans and development is possible. First of all, these are **needs** which have to be satisfied and which can be fulfilled by space owners or the entities cooperating with them. It is thanks to these needs that the entities operating in the Ethers world exhibit willingness to possess things. Means used to satisfy these needs are mostly goods and services provided by other users. To a large extent, economic goods display an earning capacity here. They can be delivered to other entities to satisfy their needs, thus allowing their suppliers to achieve financial gain. Economic goods are divided into consumption goods and production goods as well as, from the point of view of the relationship occurring between them, into substitute goods and complementary goods.

7.1 Substitute Goods

are goods that satisfy a need itself, for example a commercial entity's need for promotion can be met by placing a banner or another advertising vehicle fulfilling this function on a user's property. This means that the purchase of one good satisfying a need excludes the necessity to buy another good which can also satisfy that same need.

7.2 Complementary Goods

are goods that complement the satisfaction of one particular need. This means that the purchase of one good creates the need to purchase a complementary good. An example of a complementary good in the Ethers world is the lease of a space by an entity to place a commercial offer or objects on it.

Most of the goods produced and exchanged on the market are private goods, that is to say goods the possession of which is linked to the transfer of ownership when their seller is paid for them. Such a good is used by one entity is not available to others.

There are also goods which can be used by everyone. These are public goods, which are available to all users and entities. The use of such a good by a user or entity does not reduce others' ability to that good as well. Typical examples of public goods in the economics of Ethers are roads, bridges, seas, and oceans.

Another crucial element of economics are resources, e.g. economic resources of production. The production of goods or the provision of services requires economic resources: the most important ones, e.g. natural resources – such as mineral raw materials, plants, water, the riches of rivers, lakes, and so on – as well as capital resources – e.g. tangible assets: buildings, machinery, devices, and facilities, and raw and other materials, etc. All these economic resources possess the feature of rarity. Human needs, on the other hand, are unlimited, thus users are forced to make economic choices, which means choosing one of the alternatives. Therefore, such choices have two sides: benefits and alternative loss. Having analyzed them, a user chooses the best option of using rare resources or commodities. The missed options, that is the options which we thought were worth considering but which we ultimately rejected (making the only possible and, in our opinion, right choice) become the so-called alternative loss of the choice made. The options include all possibilities, advantages, and benefits that we did not get to know because

we chose another option. The alternative loss of our choice and purchase of a more expensive space is the choice and purchase of a cheaper one (from a different owner). Thus, we have resigned from the more expensive space by choosing to buy a cheaper one. At the same time, it may mean a hidden benefit if it turns out that a given space is rich in resources, and in the long run it will be more desirable by other entities, due to its location for instance, and the loss may be that the price of a more expensive space will increase many times.

7.3 Management Processes

Last but not least, it is worth discussing the management process, which consists of four phases:

The first is **production**, which is the conscious and intentional activity of a user focused on subjects of labor. In the production process, people use means of labor, which leads to the creation of services and goods serving to satisfy the needs of other entities in the virtual world. The production does not happen only once, but it is continuous, systematic, and organized. What is more, the production process involves the employment of factors of production (labor, land, capital), often supplemented by entrepreneurship, knowledge, and technology.

The second is **distribution**, which the provision of various types of goods to producers and consumers. This process makes it possible to deliver the necessary goods and services directly to customers.

The third is **trade** – the process where commodities and money are exchanged, mainly carried out by intermediaries who want to make a profit. When treated as a function, trade is a business activity that consists in buying and selling commodities. There is also trade in institutional terms. It includes all traders whose main activity is the purchase of commodities for resale.

The fourth is **consumption** (as an act of satisfying human needs, i.e. the users of the Ethers world in this case).

Each economy asks the question about the allocation of rare resources and their competitive application. Therefore, one of the most important tasks of a user – in the economics of the Ethers world – is to answer the following questions: "what to produce?", "how to produce?", "when to produce?", "for whom to produce?" and "for how much to sell?" Finding the right answers to

these questions will allow continued earnings in addition to the benefits derived from owning value.

7.4 Forms of Payment

As said above, space can be purchased with the native Ethers token. Sold tokens can be repurchased and used again by lessees and entities interested in cooperation with space owners. Ethers tokens serve the economics of the Ethers world as means of exchange and trade between users. They are moved to a pool by means of which goods and services are acquired in the Ethers world. Therefore, they can come back to their owner after he or she offers certain goods and services in exchange. The owner who has acquired the ownership of the given space can use it or sell it back – the available forms of payment at this stage are Ethers, Bitcoin, and Ethereum. If the Ethers token is used, a user is not charged any fees for the sale. In the case of the other two, a small fee is added.

8.0 SUMMARY

Ethers is a decentralized world assuming the form of a platform providing a social networking application based on the Ethereum blockchain with elements of a virtual reality (VR) game. It is a world which, according to its premises, is to build the value of individuals and objects, generate profit for content creators, and – working as a store of value – secure the value built over time. The native Ethers token (ETS) will allow trade and exchange and the support of the other two cryptocurrencies – BTC and ETH – in transactions will additionally improve the appeal and availability for owners, users, and entities willing to participate in such an undertaking. The decentralization of the main elements of the platform, the security of value using the blockchain network, numerous economic incentives to build the Ethers world, and support for multiple hardware platforms will surely bring many individuals and entities long-term benefit, not available before in such an advanced form. Another undisputed advantage will be the entertainment itself – in the form of a game in the decentralized world – and the aspect of well-balanced competition between users, making their first and crucial investment decisions.