

NEW PARADIGM OF COMPANY CREATION THROUGH COMMODITY-BACKED BLOCKCHAIN OPTION

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Abstract: *The aim of the paper is to identify the main characteristic features of Initial Coin Offering (ICO) as the one of possible ways for company creation. Based on data collected via blockchain it was proved that the commodity-backed blockchain option, namely ZrCoin is transparent, profitable and not susceptible to inflation or typical cryptocurrency volatility type of fund investing, based on real production.*

The rate of return on investment (ROI) is expected on the level of up to 100 % which can be considered as the constraint for the crypto crowd investors because of it is too low compared to 300% or 1,000% returns on ICOs. Instead of the mentioned factors, it is a way for applying blockchain technology to raise funds for a real-world manufacturing use case by creating a crypto-only and online-only application.

The author reveals that assessing investment in a crypto ICO exemplified as ZrCoin through risk-return indicators could be reckoned as a fundamental category error because in this case the benefits of blockchain are underestimated. The one of the options of ZrCoin ICO is crowdfunding mechanism usage the main idea of which is to provide a digital blockchain token to every investor. This mentioned electronic asset worth of a kilogram of zirconium dioxide backed by the commodity. More accurately, it is an option that is sold at a discount transforming potential investor to the shareholder of the company. Investors were able to deposit using various currencies, including Bitcoin, Litecoin, Waves and Ethereum.

During conducting research such benefits as safety and transparency of sales, purchases, transactions and income flows for their users were revealed. Meanwhile, the blockchain mechanism allows for real-time monitoring of transactions and project has estimated model of payback on investment. The one of the results of the studied ZrCoin crowdfunded investment campaign is participation of 1,500 investors and collection of 3,5 mln USD that allow to launch the two synthetic zirconium production lines with a total capacity of 800 tons per month. Therefore, it was concluded that the potential of blockchain can be used for creating profitable investment campaign based on commodity-backed blockchain option.

Key words: *Blockchain, ICO, token, cryptocurrency, blockchain option, crowdfunding, investment.*

1. INTRODUCTION

Nowadays, initial coin offering (well known as ICO or also as token launch or as token generation) is widely used as new financial instrument for company creation. Taking into consideration that traditional ICO represents the issue of predefined number of transferable tokens to investors typically in exchange to the certain cryptocurrencies [1], [2], at the same time commodity-backed blockchain option is subtype of ICO, based on the concept of commodity digitalizing.

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Therefore, ICO presupposes the company issuance of its own token (tokens can be comparable with the shares on the traditional financial market but under this having the unique features) placement of which is passed through cryptocurrency exchange.

Blockchain-backed assets can be considered as the new asset class, the main basis of which is to turn commodities into digital tokens on the blockchain. In general, commodities are the raw materials (both tangible or intangible) which can be bought and sold [3].

In the majority of cases, the access to finance such types of commodities is too complicated for minor investors, therefore the ICO based on the commodity-backed blockchain option can be related to transparent, peer-to-peer functioned, instant transferable and tradable in small denominations method of investing.

In this research, the term “tokenisation of commodities” was specified as the process of digitalizing commodities via exchange to cryptocurrencies like Bitcoin, Ether, Litecoin and so on.

One of the examples of ICO performance based on real production is the new crowdfunding company ZRcoin, offering a commodity based token as part of a new production line of synthetic Zirconium Dioxide (ZrO₂), an in-demand industrial commodity.

2. INSIGHTS IN ICO TENDENCIES

The lack of tax regulation, cybersecurity and unsettledness of government regulations are among the risks and challenges with which issuers and potential investors face. A white paper is one stage for ICO launching, which is analogue to the prospectus of securities issue. The features of ICO performance are presented in fig. 1.

According to fig. 1 token emission on blockchain is accompanied by such risks as high price volatility, lack of proper due diligence and protection especially at the most complicated forth stage for ICO launching.

The one of the unique features for ICO is to issue tokens which can be differentiated in such types presenting in table 1.

| TYPES of TOKEN | | | |
|---|--|--|--|
| Security token | Digital currency | Asset-backed token | Utility token |
| Tokens with security character, e.g., debt, equity or derivatives, with income generating component and potential rights vis-à-vis the issuer, e.g., governance, participation, ownership | Tokens with an attributed value for exchange/ transactions, asset/ value storage and/ or unit of account | Tokens that provide underlying exposure to real world assets (e.g. gold, diamond, securities, cash, real estate, etc.) | Tokens used for supporting services/ functionalities on blockchain-based platform. |

Table 1: Differentiation of tokens

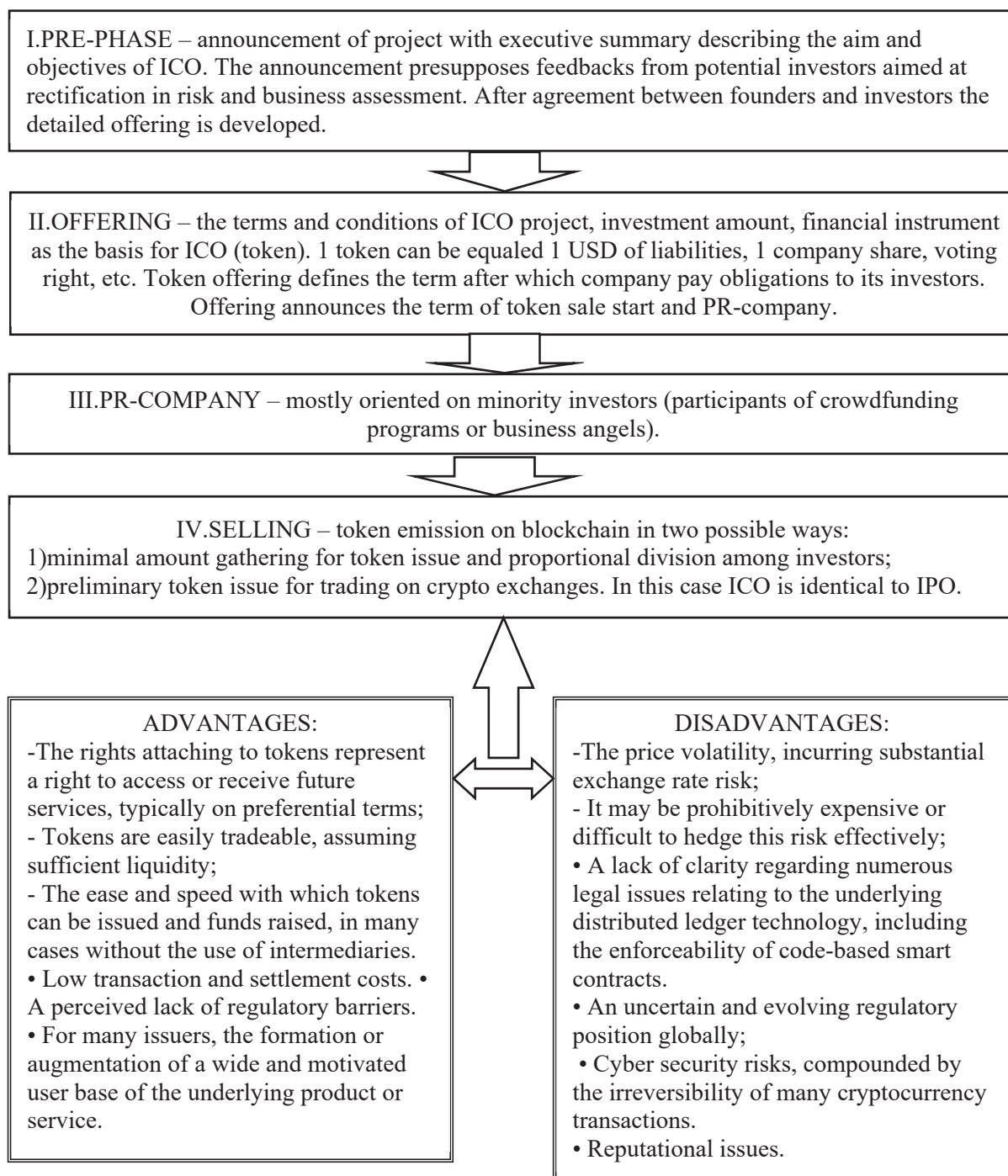


Figure 1: Characteristic features of ICO performance (formed by author on the basis of [4], [5], [6], [7])

In spite of the fact that ICO processes are still unregulated, its significant growth proves the popularity among investors (see fig. 2).

The growth rates for ICO projects in dynamics for 2013-2017 were arised rapidly and were equaled 300 %, 12,5 %, 533,3 % and 668, 4 % in comparison with previous period respectively.

The indicator for 2017 compared to 2013 is 219 times higher that confirmed the great potential and spread of ICO globally.

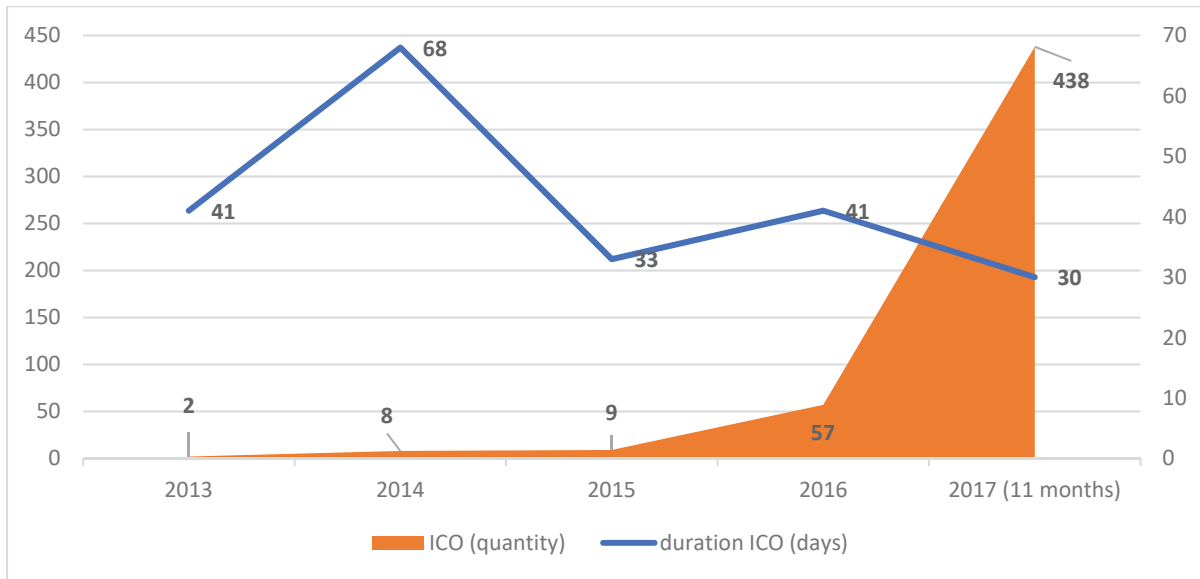


Figure 2: ICO dynamics in 2013-2017
(formed by author on the basis of [4])

Fig. 2 reaffirms that ICO becomes one of the prevalent ways for company creation with the unique characteristic features of token issue and ways for raising capital.

However, in the cases of fund rising the amounts attracted by ICO performance has the great importance for being estimated. Though, the capital gathered by ICO processes in dynamics is given in fig. 3.

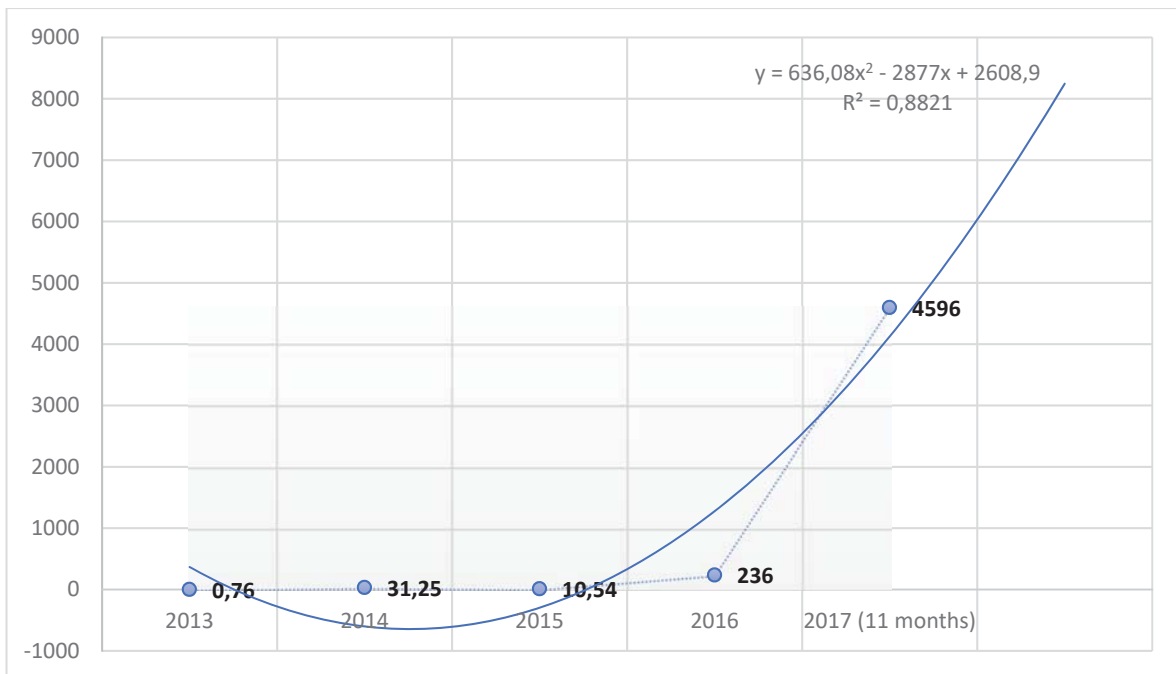


Figure 3: Amounts of fundraising through ICO with polynomial forecast, mln USD
(formed by author on the basis of [3])

Capital gathered by ICO performance, describing in fig. 3, evidenced that substantial interest from investors exists and has growing dynamics. Besides, the forecast for further fundraising can be formed by polynomial trend with the high level of approximation (more than 85 %).

The next indicator which shows the level of ICO development is the territorial distribution of ICO (table 2).

| Country | Capital | Country | Capital | Country | Capital |
|-------------|---------|---------------|---------|----------------|---------|
| US | 1031 | Estonia | 63 | South Korea | 18 |
| Russia | 310 | Argentina | 62 | Sweden | 15 |
| Singapore | 260 | Lithuania | 51 | Bulgaria | 12 |
| China | 256 | Thailand | 47 | France | 12 |
| Hong Kong | 196 | Australia | 34 | Finland | 11 |
| Israel | 192 | Ukraine | 32 | Czech Republic | 10 |
| Germany | 187 | Spain | 25 | Slovakia | 10 |
| Canada | 175 | Costa Rica | 23 | Poland | 9 |
| UK | 145 | Lichtenchnein | 23 | South Africa | 7 |
| Switzerland | 64 | Slovenia | 20 | Norway | 7 |

Table 2: The territorial distribution of ICO, ranged by capital, mln USD [7]

Table 2 shows that the most significant manifestation of ICO is inherited to North American and Asian regions herewith to Russia, where crowdfunding ICO project ZR coin was conducted.

3. ZR COIN FUNDAMENTALS

Russian project ZrCoin collected funds through ICO performance based on the real production, in particular two synthetic zirconium production lines with a total capacity of 800 tons per month. The initial goal of the project is to attract 365 mln USD due to the the first production line construction.

The investors receive ZrCoin tokens hosted on the Waves blockchain platform. Zr token can be transferred and traded on crypto exchanges, each of which is to be backed by 1 kg of zirconium dioxide (ZrO₂), that has value for manufacturing. The cost of 1 kg of zirconium dioxide (ZrO₂) was used as the basis for the blockchain token, issued by ZrCoin.

As founders claimed, synthetic concentrate of zirconium dioxide produced using their technology is a unique product, which does not require the addition of any further chemical components and allows for it to be used in refractory materials right away [8].

So, the Project offers crowdfunded investments in the ZrCoin derivative, which means an options contract for the sale of Synthetic ZrO₂ as a ZrCoin intangible asset, including an option (put option) on the buy-back of Synthetic ZrO₂ in the prescribed period at the agreed price [8].

Zrtoken can be considered as a financial instrument implemented on the Waves blockchain platform and is backed by the industrial commodity (Synthetic ZrO₂). The main characteristic features of ZrCoin project are described in fig. 4.

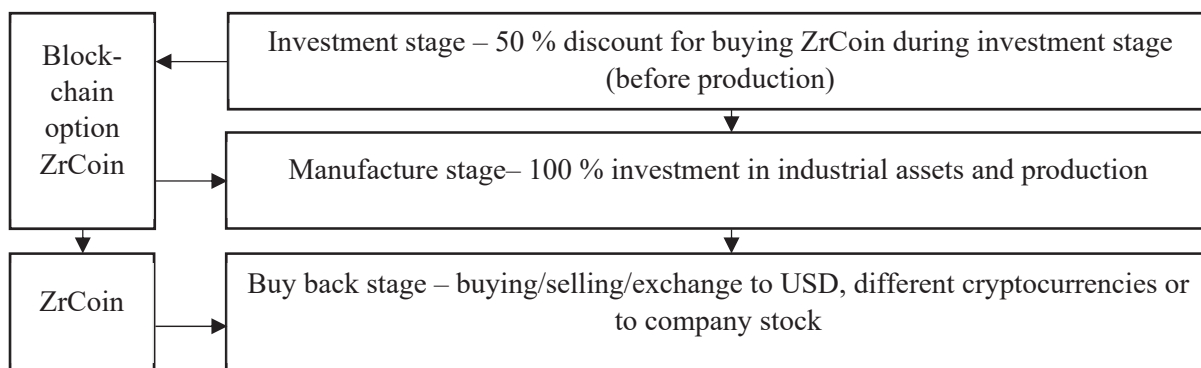


Figure 4: Mechanism of ZrCoin project [8]

According to fig. 4 the three stages are the contents of ZrCoin project launching, in particular ICO, Manufacture and Buy-Back.

ICO means the process of buying ZrCoin options for USD, BTC and other cryptocurrencies. ICO presupposed to sale options with 50 % discount from the current (basic) market price of synthetic concentrate of zirconium dioxide.

The required amount for construction of a factory and launching the manufacturing process for Synthetic ZrO₂ was collected during the ICO stage.

Manufacture stage included:

- Purchase of real estate in the industrial area of Magnitogorsk, Russia;
- Construction of facility and production of industrial equipment for the factory;
- Installation and testing of industrial equipment, and launch of new manufacturing process;
- First sales and shipments of market-ready product (Synth. ZrO₂).

Buy-Back stage indicates the possibility of investors to exchange ZrCoin for the relevant physical amount of concentrate of synthetic zirconium dioxide (underlying asset) calculated on the basis of 1 ZrCoin = 1 kilogram of the concentrate. Investors will additionally be able to trade ZrCoin options for the Company's stock, if the Company is eligible for IPO.

The one of the characteristic features of ZrCoin project is purchasing the unique technology and the possibility for investors to become its beneficial owner. Crowd investments on blockchain allows to maintain the ownership title and share only the predefined share of profit with the investors.

4. ZRCHAIN BUSINESS MODEL

As it was considered in previous chapters of this research, ZrCoin is a crowdfunding investment campaign, aimed at the collection of 3.5 mln USD through ICO on the Waves Blockchain Platform. The funds will be used to start production of synthetic zirconium in the Urals, with an initial capacity of 400 tons/month in 2018.

Main targets of ZrCoin commodity option are shown below in fig. 5.

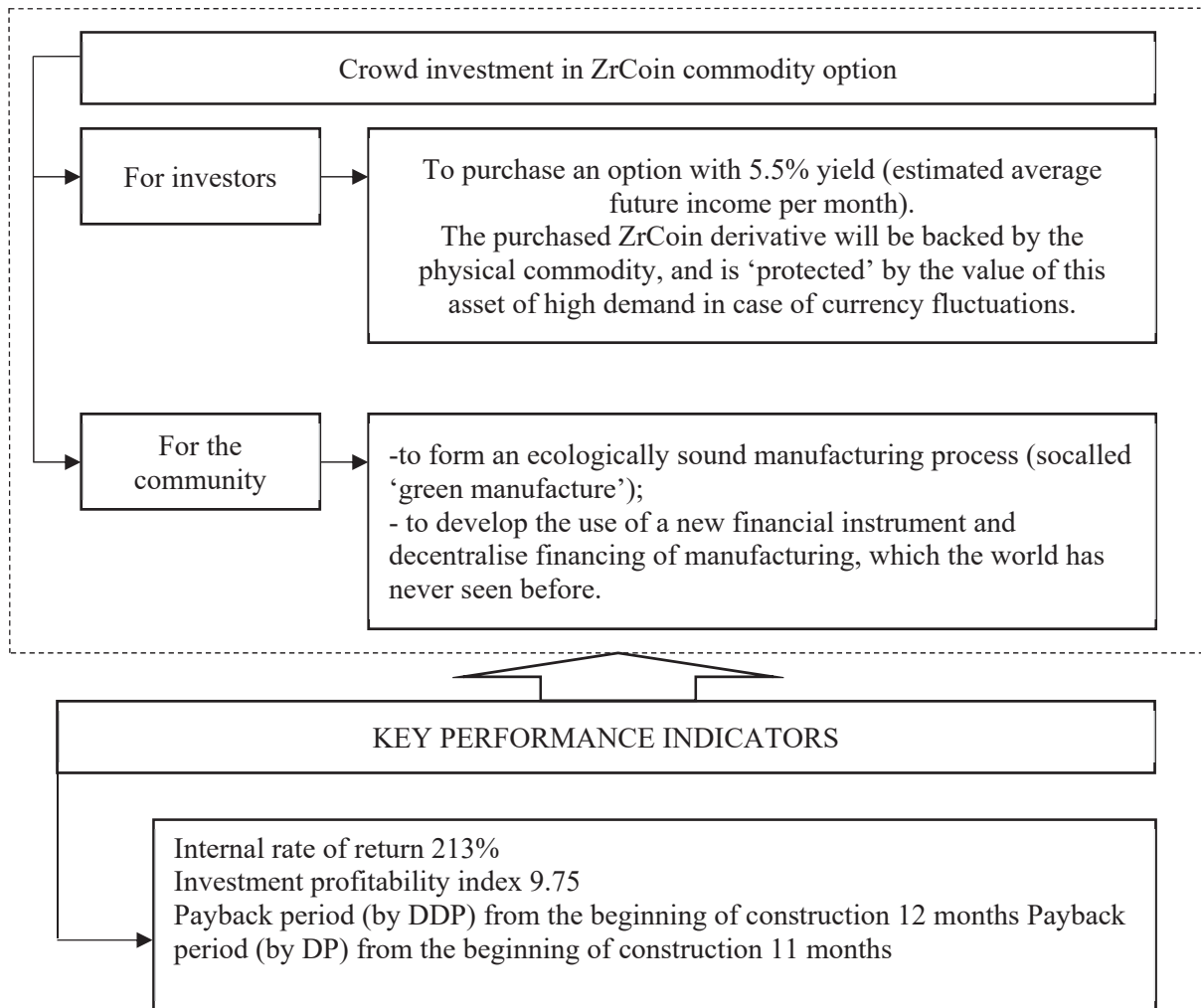


Figure 5: Business model for investment in ZrCoin project

As can be seen from fig. 5, ZrCoin project is financially effective and should be implemented regarding compliance of all performance indicators to the approved norms.

The rate of return on investment (ROI) is expected on the level of up to 100 % which can be considered as the constraint for the crypto crowd investors because of it is too low compared to 300% or 1,000% returns on ICOs.

But such advantages of the business model of the mentioned project can be underlined as [8]:

- High level of Investment attractiveness of ZrCoin Project proved by indicators in fig. 5;
- Innovative manufacturing process for Synthetic ZrO₂ refractories and utilising zirconium scrap;
- Gaining profits from investments into the crypto token backed to the real product;
- High environmental standards of the ZrCoin Project and green manufacturing processes, where wastes from glass factories, silicone cotton factories and dumps are used as raw materials;
- Implementation of the project will allow for significant reduction of accumulated environmental damage and carbon dioxide emissions (CO₂).

5. MARKET CAPITALIZATION OF ZRCOIN

ZrCoin envisaged the accumulation of minimum funding threshold of 3.5 mln USD. The funds collected were presupposed to include:

- 670,694 USD;
- 444 BTC;
- 651,430 WAVES;
- 2,837 LTC;
- 3,120 ETH;
- 6,732 ETH CLASSIC.

The predefined amount in ICO prospectus was calculated due to requirements of sufficiency of the manufacturing process launching.

But ZrCoin project raised 7.07 mln USD in cryptocurrency during ICO. 3,955 investors participated in funding [9]. The offer of Zr tokens had been lasted from the 11th of May till the 9th of June hosted on the Waves platform.

The volume of funds was twice higher than it was planned and funds raised through ICO are follows:

- 838,903 USD
- 950 BTC
- 670,290 WAVES
- 12,373 LTC
- 7,407 ETH
- 27,973 ETC.

For deeper understanding the real value of ZrCoin it is reasonable to analyze its market volume and price (see fig. 6).



Figure 6: ZrCoin market price for all period of its supply [10]

Fig. 6 represents the fluctuations of ZrCoin market price for all period of its circulation and peak values were estimated at the start of the project at the summer of 2017. The sharp decline of ZrCoin market price was mainly connected with the price reduction of the major cryptocurrencies like BTC and Ether.

But the success of ICO of ZrCoin should not be underestimated because of the amount of raising funds which as twice higher than it was predefined in ICO prospectus.

So, the example of ICO performance by ZrCoin project can be considered as the new approach for company creation through crowd funding campaign on blockchain in order to issue new crypto token based on commodity-backed mechanism.

But there are some obstacles for successful ICO performance nowadays:

- a lack of regulation in spite of the huge amounts of raising capital by ICO processes;
- the low level of investor confidence;
- insufficient qualification of the majority of financial specialists;
- inadequacy of due diligence procedure.

Therefore, the key factor for increasing the level of ICO efficiency is to adopt legislative norms and procedures for its performing, because the growing popularity of ICO, in particular commodity-backed blockchain option, might be considered as the driver for further financial market and business development.

CONCLUSIONS

So, the commodity-backed blockchain option can be observed as the new way for company creation which allows to gather money of minor investors into the real production via exchange to the different types of cryptocurrencies.

The commodity-backed blockchain option is transparent, peer-to-peer functioned, instant transferable and tradable in small denominations method of investing presupposing the process of digitalizing commodities via exchange to cryptocurrencies like Bitcoin, Ether, Litecoin and so on.

One of the successful examples of ICO performance is the crowdfunding company ZRcoin, based on the real production of synthetic Zirconium Dioxide (ZrO₂).

The one of the options of ZrCoin ICO is crowdfunding mechanism usage the main idea of which is to provide a digital blockchain token to every investor. This mentioned electronic asset worth of a kilogram of zirconium dioxide backed by the commodity.

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The one of the planned results of the studied ZrCoin crowdfunded investment campaign is collection of 3,5 mln USD that is sufficient to launch the two synthetic zirconium production, but the real success of the considered campaign is the raised funds of 7,07 mln USD . Therefore, it was concluded that the potential of blockchain can be used for creating profitable investment campaign based on commodity-backed blockchain option.

Investors will be offered to trade ZrCoin options for the Company's stock upon drawing audited financial statements for the first reporting period and IPO. The ZrCoin project, assuming successful implementation, will have a positive effect on solving issues related to quality of life, the environment and industrial waste recycling.

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