



HERO (PLAY) ICO WHITEPAPER

# REVOLUTIONIZING ONLINE BETTING

# ABOUT HEROSPHERE

Since starting our project in 2014 – née 'thesocialbet – bet friends. not bookies' – we've pursued the objective to change the nature of online betting. The original and inherent social character of a bet is lost when it comes to online betting. With online betting providers a sports fan is set up against a professional: the bookmaker. Our aim is to cut out the middleman and provide a system that enables users to challenge other sports enthusiasts head to head, without the interference of bookmakers.

In July 2016 we've rebranded our project to herosphere.gg ('herosphere') solely focusing on prediction games for esports. So far over 200,000 users registered on herosphere and more than 1,000 users stream in every day. herosphere provides the possibility for esports enthusiasts all over the world to compete against the community or their friends and prove their knowledge about professional esports games.

With a passionate team and lead investors from the payment and online entertainment sector behind herosphere, we are ready to take our platform and the online betting community to the next level by introducing our cryptocurrency: HERO (PLAY).

The mission of HERO is as simple as it is powerful: establishing a new level of trust, transparency and security, yet unknown in the world of online betting



# ABSTRACT

At herosphere.gg we love gaming. Our team consists of (e)sports enthusiasts, that's why we enjoy com-peting and challenging like-minded people. Therefore, we developed an innovative betting platform for esports events.

Nowadays, sports betting has a bad reputation. One reason for the bad reputation is the existence of fraudulent providers. Another one is that bookmakers operate on high margins, taking money out of the users' pockets. Their revenue stream is their users' loss. For more than 15 years the system of online betting has not changed and the market suffers from a lack of innovation. A high amount of untrustworthy and off-shore providers has lowered the trust of people in the current betting market. It is never completely guaranteed that users receive their winnings. All these problems have one common ground—centralization. Centralized systems create excessive risks for users like exploitation of user data, prohibitive legal regulations, vulnerability to manipulation and denial of withdrawals. That is where the blockchain and the HERO ('PLAY') come into place. HERO's solution is a decentralized betting system that will bring transparency and trustless betting to all sports fans around the world. HERO is designed as a decentralized ERC20 token on the Ethereum blockchain, which supports point-based pooling systems. Different to today's online betting, HERO creates a fully transparent network, allowing a natural expansion by its own community. Single users can become providers and are rewarded for their effort in HERO. On top of that, all HERO holders will receive a general reward of every pot that is played. A win-win situation. The smart contracts of HERO are designed to not only enable decentralized betting, but to manage whole contests without a middleman. With HERO, there is no need of bookmakers anymore.

The first use case of a HERO-implementation will be herosphere, but HERO is intended to far beyond our own platform. It is designed so any existing provider can implement HERO and emerging providers can build their systems on the HERO network and community. In addition to the fact that this system creates new revenue streams for everyone in the community and helps to grow the network, it enables also a natural increase in the value of HERO due to its limited supply. There is a reason why betting persisted throughout societies for hundreds of years—it is a lot of fun! WE bring it to the next level with HERO.

## Initial coin offering

[Initial Coin Offer](#) of up to 600 million Ethereum-based „HERO“ tokens

byte heroes GmbH, a limited liability company pursuant to Austrian laws, having its registered seat at Sieben-brunnengasse 17/7, 1050 Vienna, Austria (the „[Developer](#)“) intends to offer for exchange up to 600 million units of a new Ethereum-based token named „HERO“ (ticker „PLAY“) during a limited offer period (the „[Offer Period](#)“) starting 14 September 2017 (the „[Initial Coin Offer](#)“, „[ICO](#)“ or

„crowdsale“). The ICO will have a hard cap at USD 14m. HEROs are not securities and do not carry with them any rights as may be commonly associated with securities. HEROs are tokens based on the Ethereum-platform intended for online betting and gaming that reward coin holders for playing across multiple online betting and gaming platforms.

This whitepaper („Whitepaper“) gives an overview of certain aspects of the HERO and its intended use. This Whitepaper and the information stated herein is not legally binding. The Initial Coin Offering is only made on the basis of a separate document, the Token Offer Document which will be published alongside this Whitepaper. This Whitepaper does not constitute an offer of HEROs nor an invitation for an offer to exchange any amount of Ether for HEROs.

The Developer intends to have HERO listed on a number of virtual currency exchanges. Due to the properties and mechanics of the HERO as described herein, the Developer also aims to have the market value of HERO increase over time. However, there is no guarantee that an increase in the market value can be achieved by the Developer.

If you decide to participate in the Initial Coin Offering as a form of investment, the Developer expressly warns you that an investment in HERO carries a high degree of risk. For a description of the risks associated, see the chapter „RISK FACTORS“ in the Token Offer Document.

## Forward-Looking Statements

This Whitepaper contains certain forward-looking statements. A forward-looking statement is a statement that does not relate to historical facts and events. The forward-looking statements are based on analyses or forecasts of future results and estimates of amounts not yet determinable or foreseeable. Such forward-looking statements are identified by the use of terms and phrases such as „anticipate“, „believe“, „could“, „estimate“, „expect“, „intend“, „plan“, „predict“, „project“, „will“ and similar terms, including references and assumptions.

This applies, in particular, to statements in this Whitepaper containing information on future developments of the HERO, plans and expectations regarding the acceptance of the HERO in the market or its growth of value. Forward-looking statements are based on current estimates and assumptions that the Developer makes to the best of its present knowledge.

Such forward-looking statements are subject to risks, uncertainties and other factors which could cause actual developments to differ materially from and be worse than expected or assumed or described in these forward-looking statements. Accordingly, any persons interested in participating in the Initial Coin Offering is strongly advised to read the chapter „RISK FACTORS“ in the Coin Offer Document. This chapter includes more detailed descriptions of factors that might have a negative impact on herosphere and the HERO. In light of these risks, uncertainties and assumptions, future events described in this Whitepaper may not occur.

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# 1. THE PROJECT

## 2. Basic Information

byte heroes GmbH („the developer“) is a limited liability company pursuant to Austrian laws, registered with the Commercial Court of Vienna under registration number FN 453848 z. The Developer has its corporate seat at Siebenbrunnengasse 17/7, 1050 Vienna, Austria. The Developer has developed the HERO Network and HERO, both as described in this Whitepaper.

### 2.1 Corporate Structure

As of the day of this Whitepaper, Mr. Paul Polterauer and Mr. Philip Peinsold act as managing directors (Geschäftsführer), having legal power to represent the Developer

### 2.2 Contact Details

If you have questions regarding this Initial Coin Offer, the HERO Network or the HERO, you may contact the Developer via email ([info@herocoin.io](mailto:info@herocoin.io)).

# 3. BUSINESS AREA AND TRENDS

The following is a summary of the business area and trends that may affect the HERO Network and HERO. The summary is based on publicly available information on the internet.

## 3.1 General information

The main business field of the Developer is esports. In particular, the Developer has created and operates the social betting platform herosphere.gg. esports is a relatively young industry. Merely a couple of years ago, esports was mostly a community of video gamers who would gather at conventions to play competitive multiplayer computer games such as Counter Strike, DOTA 2, or League of Legends. For the year 2016, Deloitte Global has predicted that esports would generate global revenues of USD 500 million, up 25 percent from about USD 400 million in 2015.

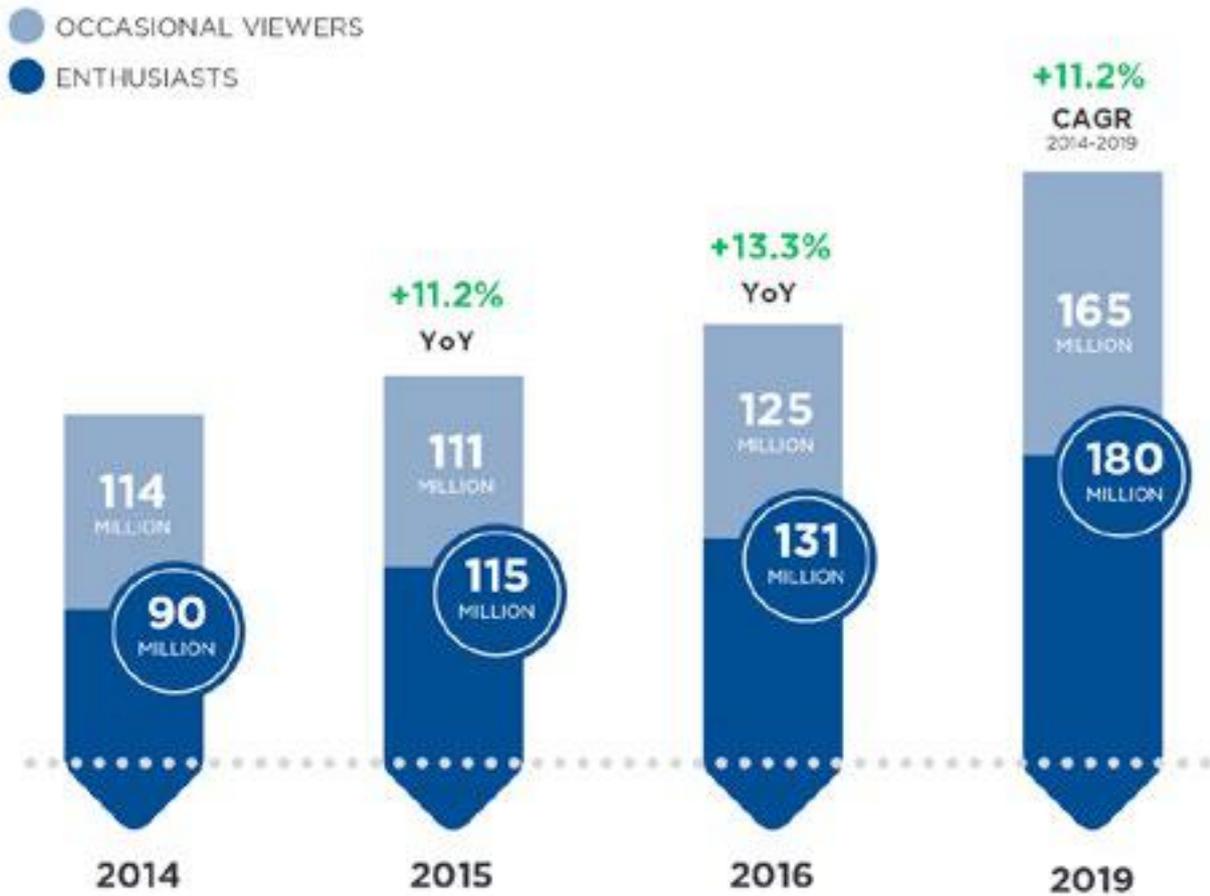
Media giants such as ESPN and Turner are broadcasting esports tournaments and competitions. Going back to 2014, Amazon has acquired Twitch, the live streaming video platform that is the leader in online gaming broadcasts. Goldman Sachs valued esports at USD 500 million in 2016 and expected the market to grow at 22 percent annually compounded over the next three years into a more than USD1 billion opportunity.

Industry statistics are backing this valuation and demonstrate the potential for massive earnings, e.g. when looking at Swedish media company Modern Times Group's USD 87 million acquisition of Turtle Entertainment, the holding company for ESL Gaming. YouTube has made a big esports investment by signing a multiyear broadcasting deal with Faceit to stream the latter's esports championship series. Also, the NBA has made announcements to launch its own esports league in 2018.

## 3.2 esports

### 3.2.1 Audience

esport is a rapidly growing market. In 2016, more than 255 million people watched esports. The number of esport enthusiasts is anticipated to continue growing by a CAGR (compound average growth rate) of over 10 percent for the next years. In 2014, the number of esports enthusiasts was on the same level as ice hockey, for 2018 it is anticipated that esports will overtake American Football.

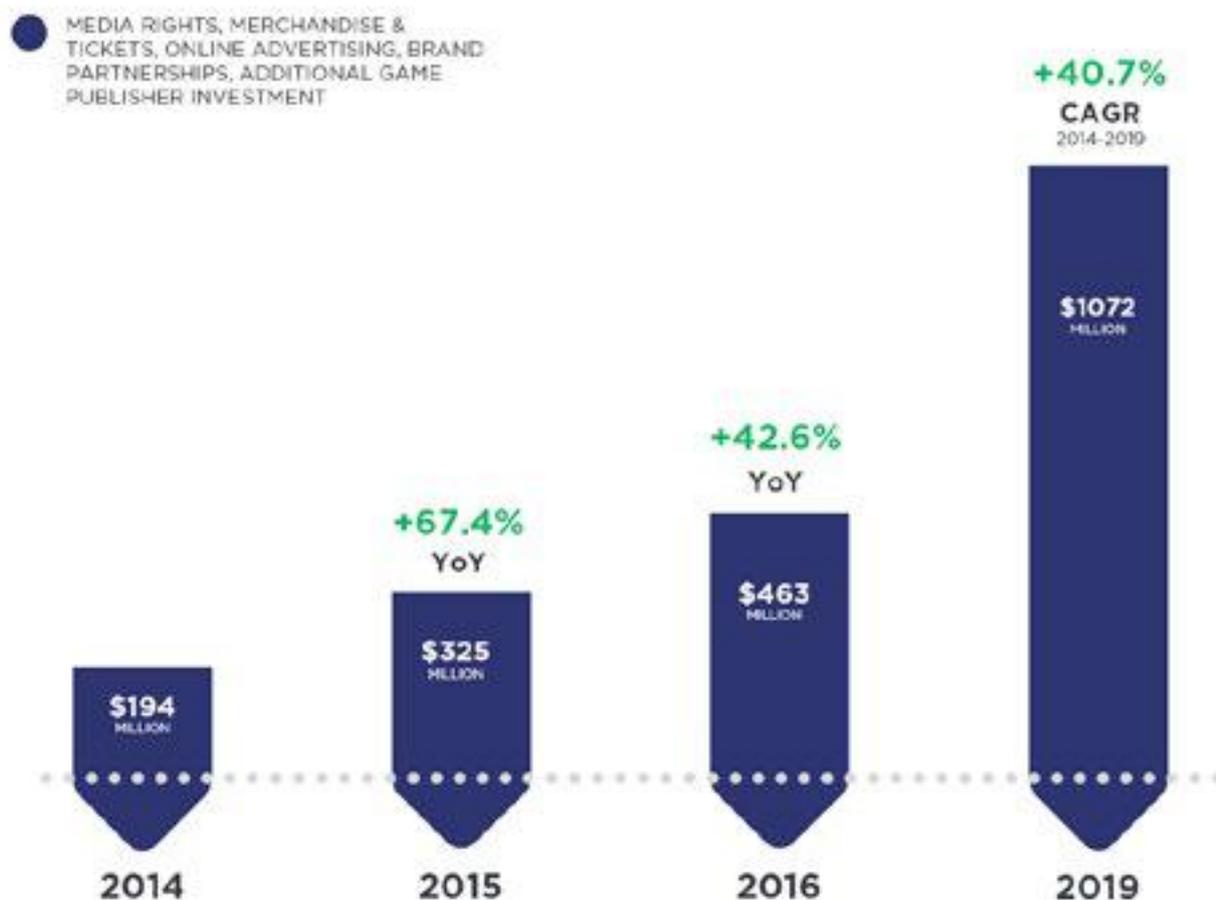


Source: Newzoo 2016 Global Esports Market Report. (YoY = year over year)

## 3.2.2 Global Revenue

The global esports market generated more than USD 460 million in revenue in 2016, and is anticipated by Newzoo to grow to USD 1.1 billion by 2019. This is even more optimistic as the numbers stated above by Goldman Sachs. North America alone comprises 38 percent of the market as NA continues to rapidly invest in the space. The revenue for esports is expected to grow by a CAGR of more than 40 percent. The definition of the esports market by Newzoo, includes the 5 following categories (esports betting and fantasy not included):

- Media rights
- Merchandise and tickets
- Online advertising
- Brand partnership
- Additional game publisher investment



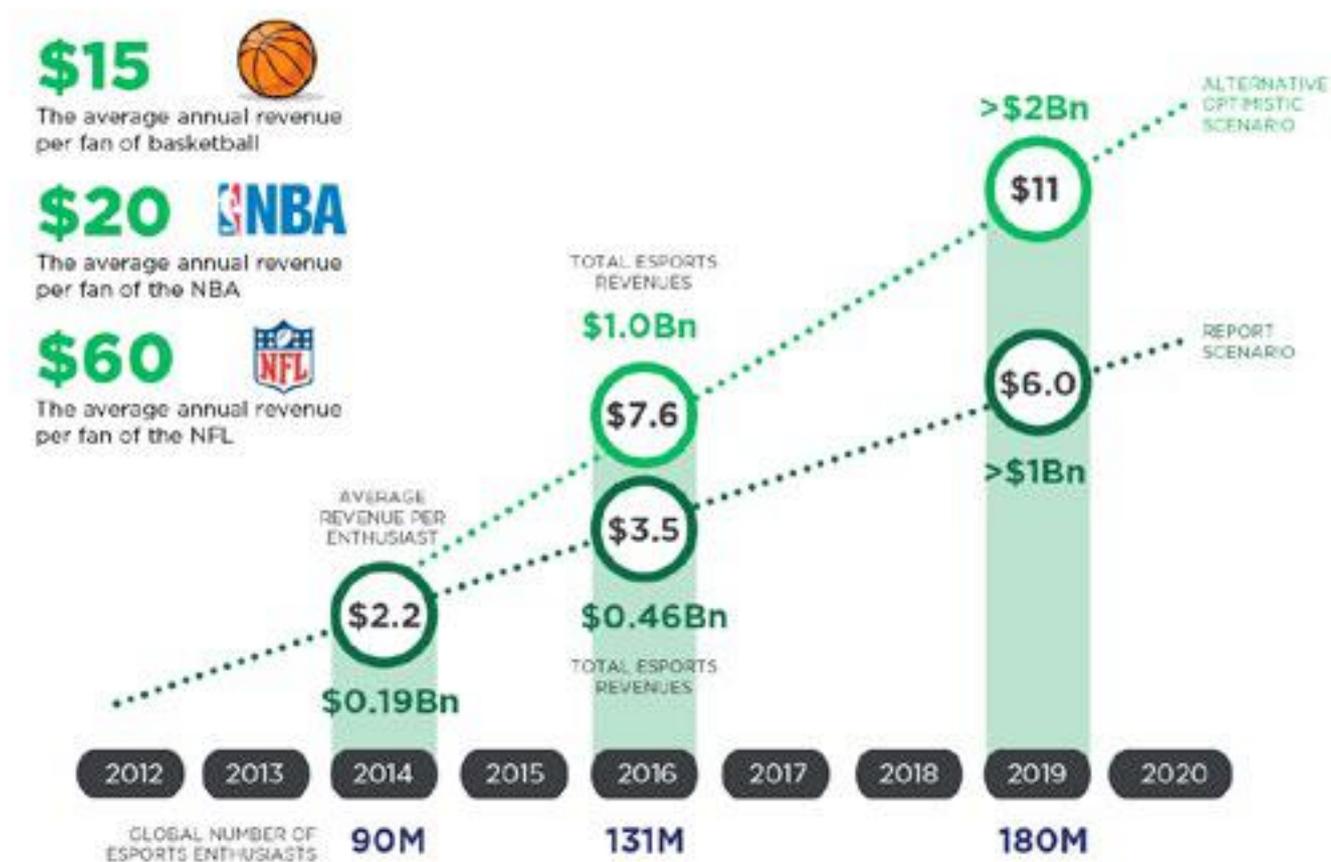
Source: Newzoo 2016 Global Esports Market Report.

If betting and fantasy are included, the esports market amounted to more than USD 700 million in 2015 and is forecasted to grow to over USD 1.9 billion in 2018<sup>1</sup>.

<sup>1</sup> Stephanie Llamas / James Ravon, Esports Market Brief Update 2015/2016 in SuperData Research (2015).

### 3.2.3 esports vs. traditional sports

Comparing esports and traditional sports makes sense to a certain extent. As the esports economy matures, it draws more advertisers and increases its merchandise and ticketing revenues directly from consumers, the average annual revenue per fan is expected to continue to rise towards the level of traditional sports. For 2016, a revenue of USD 3.50 per esports fan was anticipated. This is still almost five times lower than that of basketball (USD 15.00 per year) but up from USD 2.20 in 2014. Using a conservative scenario, the annual average revenue per esports fan is estimated to rise to a level between USD 6.00 and USD 11.00 by 2019.



Source: Newzoo 2016 Global Esports Market Report.

### 3.3 Sports Betting

Online betting is a large, fast growing and segmented market. The development and evolution of new technologies have made a considerable impact on the operation of, and interaction between, every sector of the global economy. The impact upon the betting industry has been no different in that regard, opening new product platforms and access to a wider consumer base due to the growth of new technologies. Online gambling on computer and mobile devices is considered the growth driver of the market. Mobile casino, live betting and mobile betting are expected to have the biggest growth potential in terms of gross gaming revenue (stakes less winnings) over the next twelve months and are also anticipated to have big potential for the following years.

Global online betting is a massive market, with estimated high USD 100s of billions of

figures wagered through regulated markets, and some estimates show that ten times that volume goes through un-regulated markets. Companies such as bwin or William Hill make over USD 1 billion in revenue yearly. esports cash gambling (e.g., betting on esports matches) is expected to grow from USD 600 million (2016 total amount wagered on cash gambling sites) to USD 11 billion in 2020 which is a growth by a factor of twenty within only four years.

### 3.4 esports Gambling

As noted above, cash gambling on esports is anticipated to grow by factor of twenty within the next three years. Another substantial market for the Developer is so called 'skin gambling\*' where players use game items as currency. Depending on which report is considered, skin gambling is estimated to over USD 6 billion worth of skins. The market for skin gambling is distributed across a handful of dominant products. Sportsbook-style betting (wagers on esports matches) is the largest vertical. The second most popular are jackpot-style games, essentially lotteries where players receive tickets based on the value of their deposited skins. Simple forms of roulette games, coin flip games, and blackjack games make up much of the remaining turnover. In terms of market participants, the skin gambling industry grew quickly from a handful to hundreds of sites in the course of a year. The vast majority of those sites were variations on the basic jackpot product theme. These sites have seen a significant increase in popularity, yet the majority seem to operate without any of the safeguards that are put in place to protect consumers. Over the last year, some skin gambling sites have been forced to shut down or change their business models in the face of mounting pressure from game developers and law enforcement.

*\* "Skin" hereby refers to different colours and shapes displayed on in-game items such as player characters and/or items, most notably weapons.*

### 3.5 Future Opportunities

Since the start of its project in 2014, the Developer pursues the objective to change the nature of online betting. The originally inherent social character of a bet is lost when it comes to online betting. At online betting providers, a sports fan must challenge the bookmaker, a lay person bets against a professional. The aim of the Developer is to provide a system that enables players to challenge other sports enthusiasts on the same level.

Through blockchain technology, the Developer has the opportunity to cut out the middleman and provide a system without odds and bookmakers. The Developer strives to create a new level of security and trust in the betting industry. The HERO Network will enable people to compete against others with complete transparency, trust and security.

The HERO Network can be used for any kind of pooling, betting, fantasy, or poker systems. HERO is used as a virtual currency for the HERO Network. The first use case for HERO will be the platform herosphere.gg of the Developer, which focuses on esports. The global esports market is growing prodigiously, with a CAGR of 37 percent. Cash gambling on esports is anticipated to grow even by a factor of twenty within the next three years. The Developer anticipates that over five million people will use HERO in less than two years on the platform herosphere.gg alone. Additionally, the Developer will work to establish HERO on as many online betting platforms as possible in order to establish fair, transparent and

trustless gaming globally.

*A trustless system is a combination of mechanics that allows for two or more parties to interact with another and fulfill contracts without having to trust any opposing party. This allows for private and business transactions between parties without having to fear for money or product loss and without a need to trust the opposing party. On the blockchain this is done using so-called "smart contracts", which are programmed descriptions of the conditions each party has to fulfill in order to receive their part of the deal. For betting a trustless system would solve all the problems with current betting providers: Get rid of middle-men and other parties that could influence the results and rely only on what you can doublecheck and proofread yourself. No need to trust anyone, because the blockchain takes care of that for you.*

# 4. THE HERO SYSTEM AND THE HERO

## 4.1 Use of HERO

HERO is a crypto currency to be used in connection with the HERO Network („HERO Network“). The HERO Network is a decentralized pooling system that allows predicting future events in a customized game atmosphere. Different to today’s betting system, the Developer has created a fully transparent system allowing a natural expansion by its own community creating games (Contests) on top of the HERO Network. This new decentralized model gives back a part of the rake to the community to let users participate on HEROs success. In designing the HERO Network, the Developer has strived to address the following issues that the market for esports betting currently faces.

### 4.1.1 Pain (Current Betting Systems)

#### *Unfair conditions - “The House” always wins*

Online sports betting and esports betting is a fast growing and highly segmented market. Currently, there are many actors who only slightly differ in their offers. Most well-known betting websites exclusively offer fixed odds. In the process betting providers or bookies collect high margins and players lose their money. This system is based on the business model of bookmakers which only allows revenue for the company if the user loses.

#### *Transparency and trust issues*

In the opinion of the Developer, today’s betting system is neither transparent nor trustful. Nobody can accurately track how much money is poured into the system or how the odds are created. Additionally, no one can fully guarantee payout, even if you technically won a bet. There are scam sites on the market that are known for declining payouts and even well-known betting providers ban professional players.

#### *Lost social character*

A bet itself has historically seen a very social character which was unfortunately lost in the last decades, especially in the age of the online betting boom. Players bet solely against companies and anonymous bookmakers, rather than with their friends and colleagues. Bookmakers offer unfair odds and leave users with the feeling of money having been stolen from one’s pocket.

#### *Vulnerability to manipulation*

Online betting is frequently involved in scandals due to manipulation. One of the reasons is definitely the centralised characteristic of today’s betting providers. Centralized systems are perfect targets for attacks from inside and outside.

## 4.1.2 Solution (the HERO Network)

Inspired by the above stated observations, the Developer has created a system that could potentially lead to a solution for some of the most pressing issues.

What if the community becomes the middleman?

Here's where the blockchain technology comes in place. The HERO Network allows peer-2peer predictions of the outcome of games to take place independent of middlemen, such as bookkeepers or betting providers. The system relies on an innovative pooling system that makes it possible for players to challenge their friends or the community directly instead of using the services of bookmakers. The objective is to revolutionize the monotonous betting market and to bring back the lost social thought of betting.

The Ethereum blockchain allows for the creation of smart contracts that run business logic autonomously in the blockchain. These smart contracts enable secure and reliable processing of the games created and the transaction structure behind them. In order to join contests, players have to pay a buy-in. Payouts are processed automatically by the smart contract on the Ethereum blockchain. HERO serve as the currency for these games. All HERO transactions as well as all games created are publicly verifiable, viewable, resistant to counterfeit, and not subject to the risk of institutional processing.

Additionally, the decentralized model reduces transaction and operating costs which gives the HERO Network not only an advantage over centralized competitors in safety and transparency but also enables the Developer and other providers of online betting to run on lower margins than usually seen on traditional betting providers.

## 4.2 HERO and general reward system

The HERO is designed as a decentralized ERC20 token on the Ethereum blockchain allowing for the exchange and interchange of a point-based pooling system with the purpose of betting on future events like major (e)sport matches or public engagements. These events are displayed in the form of prediction games and are held without interfering middleman. HERO will be used as a reward and incentive token in the participation of these events.

All Coin Holders will be rewarded for holding HERO with a general reward mechanism hardcoded into the smart contract. The minimum reward is one percent of all the HERO volume played.

Any person wishing to act as a provider can create a new contest in the HERO Network. Creating a contest is a function that allows betting on the outcome of an (e)sports (or other) event. Providers can enhance the HERO network with a variety of different contests and are able to set a customized percentage of their own reward. This "provider reward" is an incentive for community individuals to become providers and to compensate their efforts for the creation of a contest. The provider itself is also able to offer incentives for his community by rewarding different actions with HERO.

### Our Vision

Introducing the HERO Network and HERO, the Developer aims to disrupt the online betting industry as we know it today. The Developer aims to shape the future of a trustless and

transparent betting economy which enables it to bring back lost social dynamics and trust of today's betting systems. The HERO Network will first be implemented and tested on the Developer's own esports platform herosphere.gg where HERO will be exposed to an existing user base of over 200,000 active players. From there on, the Developer aims to expand the HERO Network rapidly and integrate it with other online betting providers and private Game Creators. The ultimate goal is to open up to everyone the possibility to create customized prediction games that are run and executed over the decentralized HERO Network.

The above described general reward system opens new opportunities for existing and emerging communities. A Twitch streamer, for example, would be able to incentivise his or her existing viewers in customized private contests and would get rewarded through the HERO network itself for the creation of the contests. Thus, the HERO Network not only creates new streams of income for everyone helping to grow the network, but also the expansion of the network itself increases the worth of each HERO because of its limited supply.

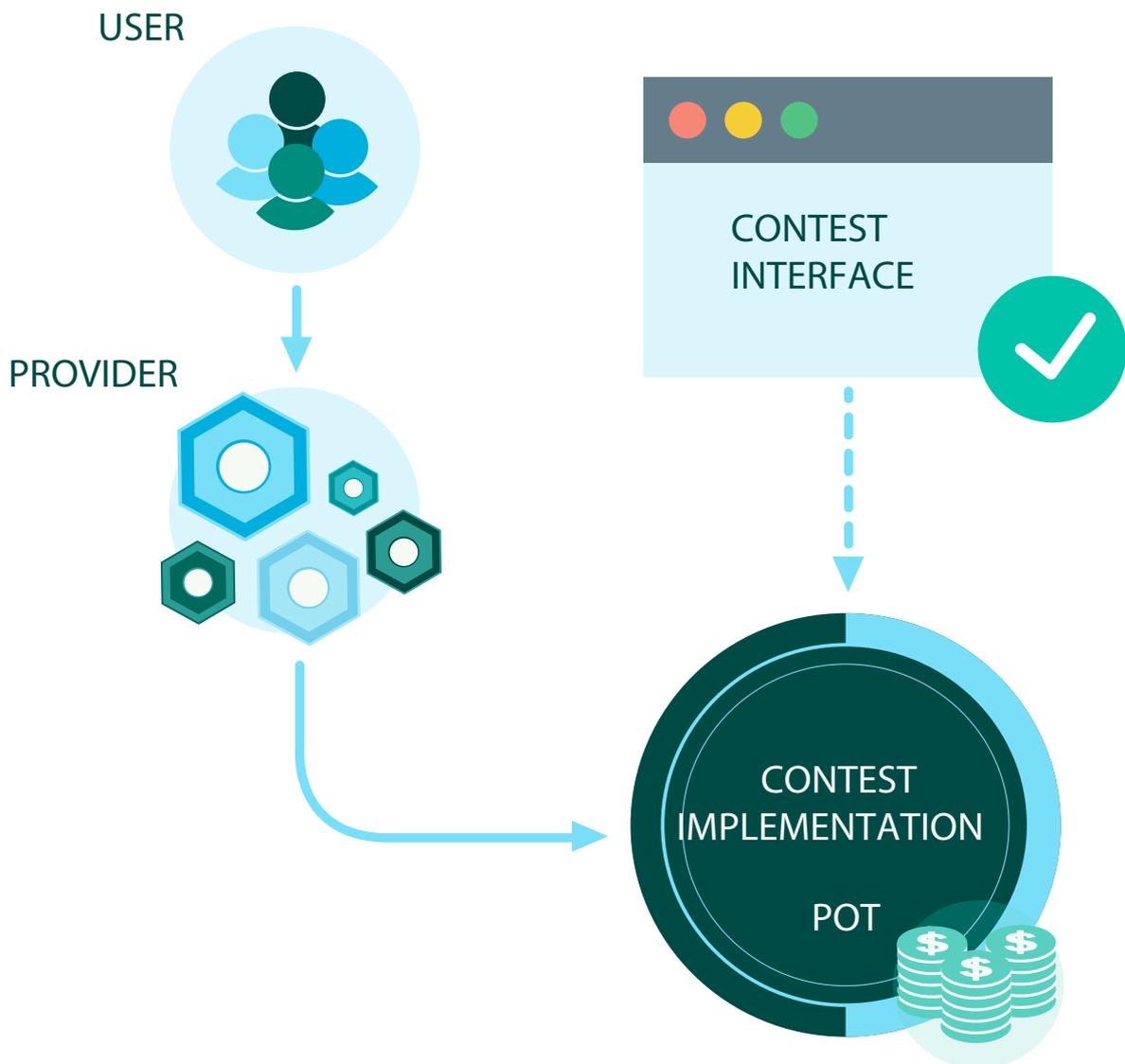
The economics underlying the HERO are chosen to benefit the community and the HERO Network, creating a natural demand on the open market and thereby a healthy growth of value. HERO is intended to be freely tradable and purchasable on an open market. The value of HERO will be determined by the market-variable exchange rate. In the future, coin holders can liquidate their holdings by trading them on a virtual currency exchange at any time.

## 4.3 Technical Description

The following part of this Coin Offer Document outlines a technical overview of how the HERO Network and the HERO work.

### 4.3.1 The Contest System

First, an overview of the relevant entities of the HERO Network is given. This is a simplified view of how the entities work together. The entities are described in the definitions below. After that you will find a detailed visualization and description of a possible process flow.



„Contest Interface“: The Contest Interface acts as pattern for Contest Implementations. It can be compared to abstract classes in programming languages. It implements common contest properties and interfaces that all Contest Implementations must include.

„Contest Implementation“: The Contest Implementation is a concrete implementation of the Contest Interface. It embodies an actual Contest (games) where Players participate. A Contest Implementation must implement all functionalities of the Contest Interface. It is deployed on the blockchain when a Provider creates the Contest. Thus, it is changeable and extensible in the future. In its initial simplest form, it is responsible for the buy-in

and pay-out. Future implementations may decide the winners and pay-outs trustless and decentralized on their own.

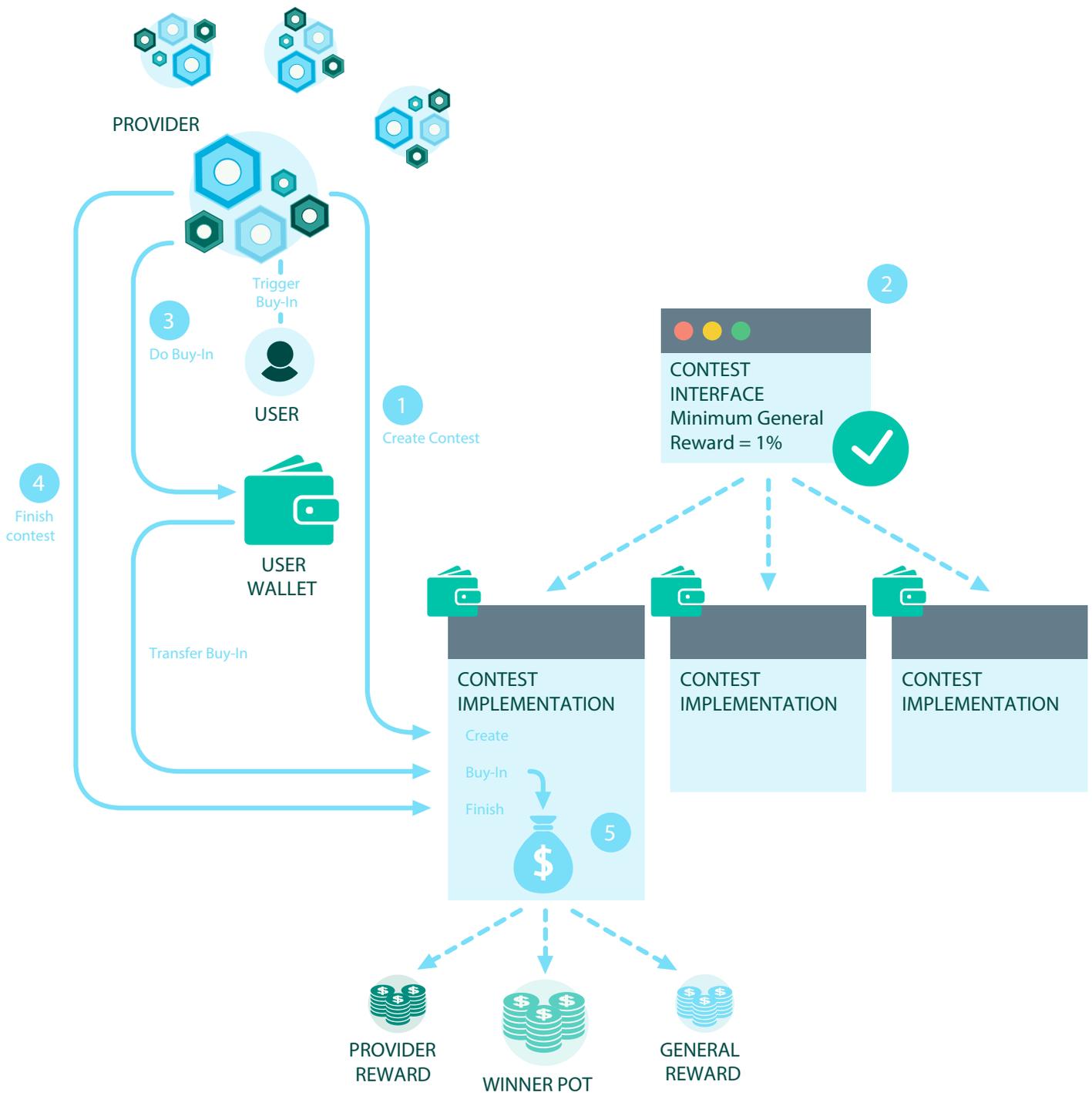
„**Provider**“: A Provider offers a platform where Players can place their bets or predictions. The Provider creates (deploys) Contest Implementations on the blockchain and is able to manage them.

„**Player**“: The Player is a user of the platform of a Provider. He participates in Contests which a Provider offers.

„**Pot**“: The Pot is the sum of all buy-ins. It is stored within the Contest Implementation during the Contest. After the Contest is finished, it is paid out to the Players and Coin Holders.

## 4.3.2 Process Flow

The following graphic shows the process flow of how Contests, Providers and Players will use the HERO. Each process step is described in detail hereinafter.



### Contest Creation

A Provider can create new Contests. In order to do so, the Provider deploys a new Contest Implementation. Contests are implementations of the Contest Interface. The Contest Interface defines that every Contest Instance must have a reward of at least 1.00 percent („General Reward“). The Contest Instances are exchangeable. This means that new Contest Implementations with new functionalities can be added later. That way, the long-term goals of the Developer can be reached step by step without the need of forking. In the future, the Developer intends to offer templates of Contest Implementations which fit the needs of different Providers. As a result, the HERO gets more and more use cases and fields of application.

During the setup of a Contest, the Provider has to specify the data, which is required for the Contest Implementation used. The first Contest Implementation will be rather simple and only needs the following data:

- Wallet ID of the Provider;
- Buy-in callback address of the Provider;
- Provider reward (percentage of the Pot);
- General Reward (percentage of the Pot, at least 1.00 percent).

With this set of data, the Contest can handle the buy-ins and pay-outs of all Players.

### Contest Joining

If a Player wants to join a Contest, he or she triggers a buy-in at the Provider. The Provider triggers the transaction on the wallet of the Player. The buy-in is transferred from the Player's wallet to the Contest Instance and is now part of the Pot. After the buy-in transaction was successful, the Contest calls the buy-in callback address of the Provider. As a result, the Provider can guarantee that HERO are now in the Contest smart contract and the Player has certainly paid the buy-in. In the end, the Contest smart contract knows how many HERO are currently in the Pot and how many and which Players (wallet ID from buy-in) are participating in the Contest.

### Contest Finish and Pay-Out

After the results of all bets of a Contest are known by the Provider, the Contest is finished. The Provider can interact now with the Contest smart contract to trigger the finish process. After that, the smart contract divides the Pot into three different sub pots:

- „Provider Reward“: The Provider Reward is defined as a percentage of the Pot. It is set by the Provider who interacts with the Contest smart contract. It should be seen as

$$\text{Provider Reward} = \frac{\text{Pot}}{100} \times \text{Custom provider reward percentage}$$

reward for the effort a Provider had, similar to mining of bitcoins. After the Contest ended, the Provider Reward is transferred to the Provider's wallet address, which is also provided at Contest setup.

- b. „General Reward“: The General Reward is the bonus for all Coin Holders. Every Contest must pay out at least 1.00 percent of the Pot to all Coin Holders as General Reward. This is guaranteed by the Contest Interface. Therefore, the minimum General Reward is 1.00 but it can be set to a higher value by the Provider during Contest setup. A higher general reward can be used by providers to incentivize the community to participate in his contests. The Contest smart contract calculates how much of the General Reward each Coin Holder should receive. This is not an equal distribution. It is weighted by the amount of HERO the Coin Holder owns. The General Reward will be distributed immediately after the Contest ended.

$$\text{General Reward} = \frac{\text{General Reward Pot}}{\text{Total Supply of HERO}}$$

$$\text{General Reward (per Coin Holder)} = \text{General Reward} \times \text{HERO Coins held}$$

- c. „Winnings“: The remaining part of the Pot are the Winnings. They are distributed to the winners of the Contest. In the first simple Contest Implementation, the Provider tells the Contest smart contract which wallet address should receive which amount of HERO. The Contest smart contract checks if the sum of the Winnings is equal to the Winnings pot. In addition, it prevents to pay-out to a wallet address which is not known by the Contest. This means that only wallet addresses which made a buy-in are valid pay-out-wallets. In order to make the winners transparent, a future goal is to create more complex Contest Implementations which also handle the calculation of the winners and adds trust into the result.

### 4.3.3 Contest Contract Templates

The Developer aims to bring more transparency to the whole online betting market which is an ambitious goal. The Developer is aware of the fact that Contests are handled very differently among Providers. However, the Developer still wants to offer Contest smart contracts that can be used by a wide range of existing and upcoming Providers as well as future community projects. Therefore, the Developer has developed the above described architecture. The Contest smart contracts are implementations of the Contest Interface. This means that the Contest Interface will be deployed on the blockchain right at the beginning. This Contest Interface cannot be changed easily afterwards. It unites all attributes and behaviors which all Contests have in common. All Contest smart contract instances which implement the Contest Interface will inherit these attributes and behaviors. The General Reward can serve as an example for this. All Contests should pay out a General Reward of at least 1.00 percent of the Pot. This could be achieved by packaging this General Reward behavior into the Contest Interface. In this way, all Contest smart contracts must pay out the General Reward.

Another advantage of this architecture is that the Developer is able to further develop the Contest smart contracts and exchange the simple contracts with more complex ones in the near future. The Developer will do this by implementing lots of Contest smart contract templates and offering them to existing and potential Providers. The Contest smart contracts will become more complex and will handle more attributes and variations of a Contest. The goal of the Contest is to automatically calculate the results and payouts based

on the predictions or bets without any centralized system involved. As a result, the whole process from the buy-in and placing the bets right through to the pay-out of the Winnings will be trustless and decentralized.

The Developer will start with a first template which is called ‚Simple contest contract‘. It will handle buy-in, Pot segmentation, and pay-out of the Provider Reward, General Reward and Winnings. Although it is rather simple, it already solves the problem of non-transparent buy-ins and pay-outs. The next goal is to develop Contest templates which decide on their own how many HERO which Player receives. Therefore, the Developer will — additionally to the Simple contest contract — provide three different types (templates) of Contests in the near future:

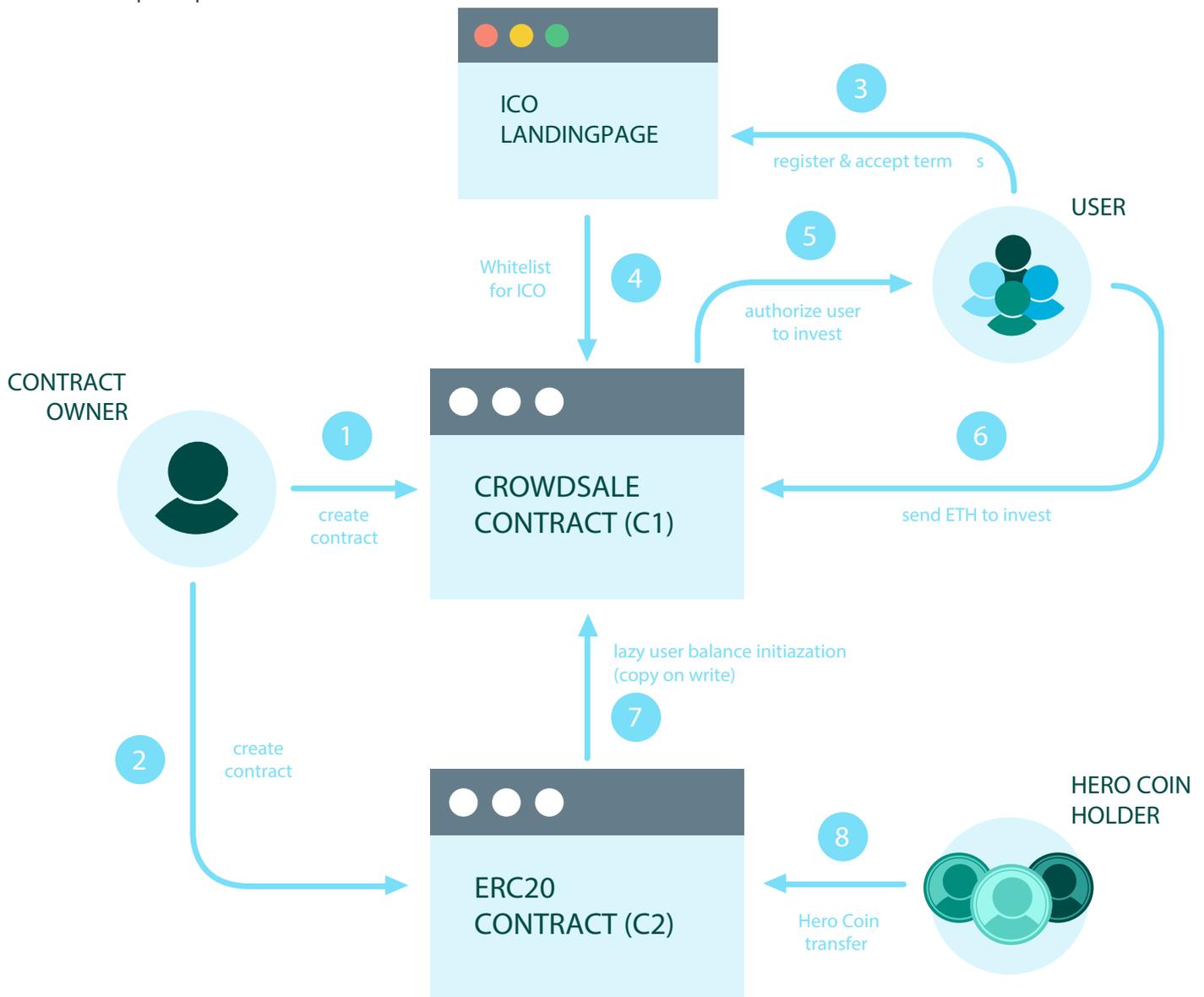
- a. **Percentage Contests:** The simplest percentage Contest is the „Double Out“ or „50/50“ contest. This means that the best 50 percent of the ranking will double their buy-in, the worse 50 percent will lose. In between there is the Provider Reward. This means, for example, if the Provider Reward is set to 10 percent then not the best 50 percent will double, but the best 45 percent. The worse 55 percent funds the winners and the Provider Reward. By implementing the relevant settings as variables, this template can then be used for all different percentage combination like „Triple Out“ with „30/70“ or „Top 10 percent“ with „10/90“ and so forth.
- b. **Fixed Winners Contests:** This type of Contest is a different way of implementing Contests. Instead of a percentage, it has a fixed number of winners. A well-known implementation of this kind is the „Winner takes it all“ Contest, where only the best will win. This template will handle all possible implementations of the „Fixed Winners Contest“ by implementing the number of winners as variable. As a result, contests like „Top 10 wins“ or „Top 50 wins“ are possible by using this template.
- c. **Private Contests:** Some Providers (like the Developer itself) will offer private Contests. This means, that Players can create their own Contests based on the events which are offered by the Provider. Private Contests may have different economics than Contests which are open for the whole community. A possible scenario could be that the Provider wants to reward Players who create private Contests with HERO.

#### 4.3.4 Individual Player Incentives

Additionally, the implementation allows for multiple separate incentive models in pool-based games. One example that will be included on the platform herosphere.gg is gaming related rewards. Other than the general reward System (which aims to reward all Coin Holders), the gaming related re-ward aims to incentivize the Players of a specific platform. Therefore, it may look different on every platform. The general aim is to reward the Players according to their amount of HERO played, so only Players that take part in a pooling game will receive HERO, others will not. Such reward is paid out not only to Players of that specific game but to all Players on that platform depending on their usage of HERO on this platform. This is an incentive to keep Coin Holders from hoarding as it rewards them for actually using their HERO on the market. Herosphere.gg offers players a general reward depending on the amount of HERO he or she has played with on the platform during that month.

## 4.4 ICO process - technical view

The following outlined process gives an overview of how the crowdsale will work from a technical perspective.



### Create Contracts

First the contract owner (the Developer) has to create the Crowdsale Contract (C1) and the ERC20 Contract (C2). The Crowdsale contract is used to collect and authorize user addresses, collect ETH payments and compute Hero balances at the end of the ICO. If a minimum amount is not raised, then the contract can refund all users. If a maximum amount is raised the contract can stop collecting funds. If for any reason the contract owner decides to stop the crowdsale campaign, the contract can be refunded. The crowdsale contract is only active during a specific time period.

### Register for the ICO

Due to legal requirements, potential investors have to register and accept the terms of the Hero ICO before they invest. For this registration, a valid email address and the wallet ID from where the user wants to invest into the ICO are required. After a successful registration, the provided wallet ID is whitelisted for the crowdsale and the user is authorized to invest.

## Invest

Users become investors by transferring ETH from the wallet which was provided during the registration, to the crowdsale contract. If the sending wallet ID is unknown by the crowdsale contract because it was not whitelisted before, the investment transaction will be rejected.

## Distribute the token

After the ICO has finished, the ERC20 contract initializes itself with the HERO balances, which were distributed through the crowdsale. Now the HERO balances for all participants are available for the users who participated in the ICO.

# 5. ICO

600m HERO will be sold at the ICO. The aim is to raise USD 14m, which equals 48,000 ETH at current rates, with the crowdsale at a token price of USD 0.024.

Exchange rate: 1 ETH = 12,500 HERO (PLAY) - this may change with ETH exchange rates. The crowdsale will start on September 14th 2017. Some of the numbers may change with ETH/USD exchange rates and volatility, but numbers are best effort estimates as of September 9th 2017. The final numbers and fixed ETH amount will be announced before the start of the crowdsale.

Details on the exchange process will be published in the Token Offer Document.

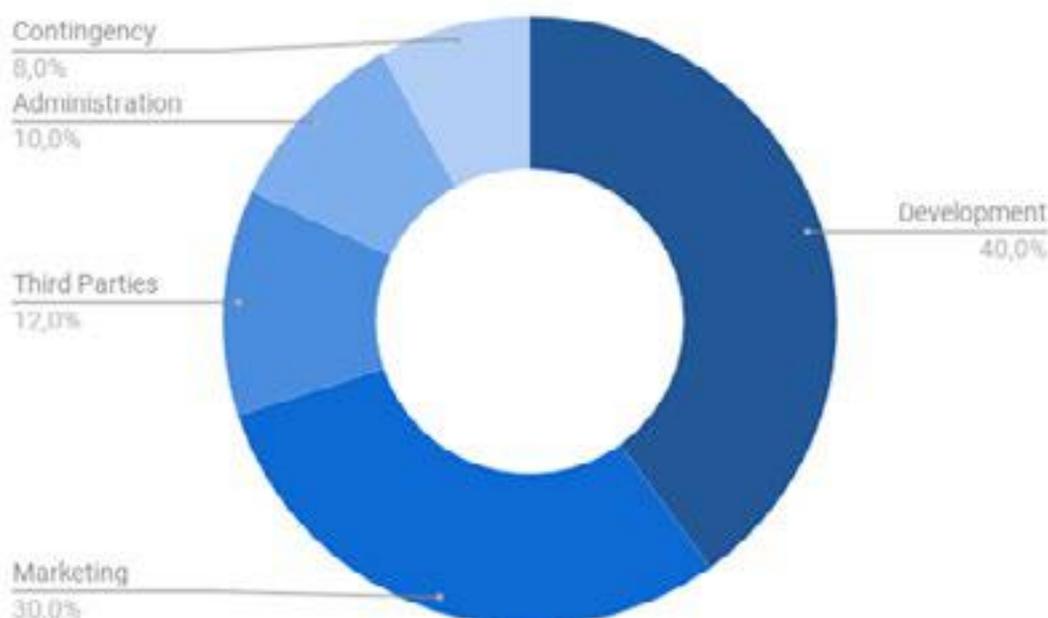
Update: All unsold tokens have been burned. The new total supply is 252,165,029.

# 6. USE OF HERO AND PROCEEDS

## 6.1 Ethereum Proceeds

- 40% Hero Development
- 30% Sales & Marketing
- 12% Third Parties (PR, engineering, Marketing, Affiliate programs...)
- 10% Administration (legal, security, accounting..)
- 8% Contingency (unforeseen costs)

As of the date of this Whitepaper, the exact amount of Ether obtained from Participants in the Initial Coin Offer (the „Total Exchange Amount“) is uncertain and depends on (i) the ETH Coin Value set by the Developer and (ii) the amount of HERO exchanged. The Developer intends to use 40 percent of the Total Exchange Amount for the further development of the HERO Network underlying the HERO, especially for the development of additional Contest smart contracts; 30 percent of the Total Exchange Amount is reserved for marketing and sales measures; 12 percent of the Total Exchange Amount will be used for the payment of third parties such as for public relations matters, engineering, marketing, and affiliate programs; 10 percent of the Total Exchange Amount will be applied towards administrative costs such as legal fees and accounting and 8 percent are reserved for unforeseen costs. However, the Developer is under no legal obligation to use the proceeds as described before.



Source: Developer.

## 6.2 Total Supply of HERO

- Total Tokens: ca. 252 Million
- 30% Token Sale
- 35% Development (future development team expansion,)
- 20% Marketing & Partnerships
- 8% Esports and Third-Party Implementation Fund
- 7% Company Cold Storage and Betting Reserve - (Liquidity & Backup)

A total amount of HERO will be created by the Developer. 70 percent of the Total Coin Amount will be used for other purposes. The Developer explicitly reserves the right to exchange the retained portion of HERO for other virtual currencies or sell it for Euro or any other fiat currency at a later point in time at any marketable price. However, the Developer will commit itself to adhere to the following restrictions in the use, exchange or selling of HERO on the market. Especially, the Developer will commit itself to only exchange or sell such amounts of HERO that, to the best knowledge of the Developer, would not have a visible impact on the market value of HERO.

35% of the HERO supply will be used for future development such as development of the HERO Network and an incentive program for the current and future team subject to special holding conditions. Those will ensure a long term incentive for the HERO founding team. Additionally, 8% will be allocated to a Third Party ecosystem fund to grow out the HERO network and bring additional providers to the network. A part of this fund will be used for brand awareness in the esports scene, where the Developer plans to host tournaments and sponsor teams. The Developer is setting aside 7% of all HERO created as a Company fund and betting reserve. It is possible that some of these Tokens will never be issued but it is necessary to have a backup if needed. In any way HERO will engage directly with its holders to seek their guidance before any of the reserved token will be brought into the market. At the end of the Initial Coin Offer, token creation will be closed permanently.

# 7. ROADMAP

Q3/14	Start of our project
Q3/16	Cryptocurrency HERO is born
Q4/17	ICO Start
Q2/18	Official Release
Q2/18	Open api for other Betting Providers
Q3/18	Releasing a variety of Contest Templates
Q4/18	Complete integration of decentralized games

There are a lot of things planned for the Cryptocurrency and we will focus on the expansion of Hero providing contest templates and api's for future providers to make the implementation of HERO as easy as possible. In 2018 we will also host Hackathon in order to build projects on top of HERO.

The first provider to use Hero will be our own esports platform herosphere. In addition to the Milestones stated above are the release of live prediction games in Q2 2018 and a Twitch Integration for Influencers to host private contests for their community in Q3 2018. We also plan the expansion to China and hosting an Invitational esports tournament in late 2018 as well as a close work with esports communities around the world.

# 8. TEAM

## 8.1 Management



### **Paul Polterauer, Co-founder & CEO**

Before he founded herosphere with a current user base of more than 200k users, Paul has worked at PwC Advisory for Corporate Finance, M&A and Deals. At PwC he worked on one of the largest deals in Austria at this time and projects like the asset quality review for the European Central Bank's stress tests. He studied business administration in Austria, Hong Kong and Hawaii. Passionate soccer, tennis and Star Craft II player.

<https://www.linkedin.com/in/paul-polterauer-4933a1a0/>



### **Philip Peinsold, Co-founder & CTO**

Philip is one of the founders of herosphere and as CTO responsible for the technical background of the start-up. Before that, he worked as Software Developer and Project Manager in the field of eHealth. He studied eHealth at the university of applied science in Austria. He was a semi-professional volleyball player and early adopter of Dota.

<https://www.linkedin.com/in/philippeinsold/>



### **Bernhard Blaha, Co-founder & COO**

Having founded two companies before, both of which are still running, he knows how start-ups work. He not only brings economic expertise but also technical knowledge into the company. Bernhard has studied Mobile Computing followed by Executive Management.

He also claims to have introduced the daily table tennis challenge to the team, but nobody knows for sure.



### **Andreas Petersson, Lead Blockchain developer**

Andreas has a background in enterprise software development and is active in the Bitcoin industry since 2011, where he co-founded Bitcoin Austria. Between 2012 and 2015 he worked for Mycelium, where he developed the Mycelium Wallet, which successfully secured the funds of 250000 people. He then founded Minebox, a company that enables decentralized storage secured by smart contracts. He advises Bitpanda, a popular Bitcoin broker on security.

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<https://github.com/apetersson>



### **Jerome Rousselot, Smart Contract developer**

Jerome Rousselot is a technology executive with many years of experience in blockchain, cryptography and embedded systems. He is Product Manager and Chief Revenue Officer for Mycelium, organizes trainings with the Blockchain Connector and founded or co-founded Nodali, Jita and Proof of Purpose.

Jerome is based in London and obtained his PhD in Theoretical Computer Science at EPFL, Switzerland. He enjoys running, mysore yoga and traveling.

<https://github.com/jeromerousselot>



### **Johannes Mahler, Head of Marketing**

Joe previously built a global community in 40+ countries with more than 20,000 people joining their online courses at Comfort Zone Crusher. He is the CEO of TriggIn and Marketing Advisor for mahler ARTHA. Loving everything marketing related, he has experience in Content-, Email-, Affiliate-, Social Media Marketing, SEO, Copywriting and Branding.

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### **Vladan Vasic, Senior Lead Developer**

Living the entrepreneurial lifestyle, Vladan has founded numerous companies starting in 2001 with his Online Multiplayer Gaming Community with over 1 Mil-lion active users per month up to his latest being snixx -Web and Marketing Agency and KidCo - innovative Clothing Company. He is a passionate full stack web-developer with over 14 years of experience in development, marketing and SEO.

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## 8.2 Investors



**Michael Altrichter, Business Angel**

Co-Founder of paysafecard and payolution.

<https://www.linkedin.com/in/michael-altrichter-348703/>



**Hubertus Thonhauser, Entrepreneur and angel investor.**

Managing Partner of Enable Future, Co-Founder of Babil Games and former CEO Switzerland of Casinos Austria International

<https://www.linkedin.com/in/hubertus-thonhauser-b6a43127/>



**Michael Eisler, Co-founder of startup300**

Austria's most active business angel network. He successfully sold his company DIG AG and spent several years in Los Angeles and San Francisco working on his startup wappwolf.com as well as Roman Scharf's Talenhouse.

<https://www.linkedin.com/in/michaeleisler/>



**Gerald A. Hollaus, Business Angel**

Serial entrepreneur, Lecturer at FH Wien/Krems/Wr. Neustadt, former Performance Manager at OMV and director at JWC Group.

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**Bernhard Lehner**

is co-founder of the business angel network startup300. He is a serial entrepreneur and (co-) started 10+ companies in the last 10 years. He was business angel at runtastic.

<https://www.linkedin.com/in/belehner/>



**Alexander Kucher, Private Investor**

Director Group Procurement Telekom Austria Group and former CTO of the bulgarian subsidiary of Telekom Austria Group.

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**Rainer Reich, Business Angel**

Former senior partner at The Boston Consulting Group.

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**Johannes Siller, Business Angel and founder of Ebit.**

<http://www.mapcon.at/#uebermich>



**Roland Tauchner, President of BaseTech Ventures AG**

Founder and also Member of the Board of DIMOCO Europe.

<https://www.linkedin.com/in/rolandtauchner/>

## 8.3 Advisors



### **Günther Doppler**

Management consulting and former CFO of Kalixa Payment and bwin Inter-active Entertainment AG.

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### **Christian Dressler**

Founder of bitTex TI Solutions, previously worked for Swiss Blockchain Services.

<https://www.linkedin.com/in/christian-dressler-08553b96/>



### **Thomas Talos**

Partner at Brandl & Talos. Specialized in M&A transactions and on-line gaming

<https://www.linkedin.com/in/thomas-talos-4a2a61a/>



### **Oliver Völkel**

Partner at SVLAW. Specialized on virtual and crypto currencies.

<http://www.svlaw.at/en/team/dr-oliver-voelkel-ll-m>



### **Bernd Winter**

Partner for tax consulting at BDO. Focus on gambling and betting.

<https://www.linkedin.com/in/bernd-winter-ab5985a4/>



**Erwin Smole**

Co-Founder of Grid Singularity and Energy Web Foundation working now in the Blockchain and Energy Sector.

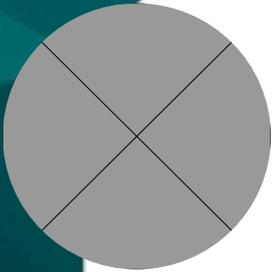
<https://www.linkedin.com/in/erwin-smole-32721233>  
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**Stefan Fleig**

Serial entrepreneur, Co-Founder of TableConnect  
Previously Co-Founder of Shpock

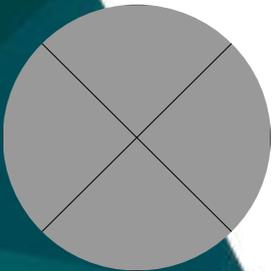
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**Max Tertinegg**

Co-founder of Coinfinity and Blockchainhub Graz.

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**Ken Shishido**

Ken is Co-Organizer of the Bitcoin Tokyo Meetup Group. He believes in liberty, free market competition and small government.

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Date	Version	Amendments
	v_01	
20.08.2017	v_02	formatting & wording
29.08.2017	v_03	team foto, anchors & ICO update
11.09.2017	v_04	reward, ticker, correction of graphics
05.02.2018	v_05	tokens burned and total supply

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