

The logo for BitDice, featuring the word "BitDice" in a stylized font. The "Bit" is in a light blue color, and "Dice" is in a darker blue. The background of the entire page is a dark purple with a subtle geometric pattern of overlapping triangles and several floating, glowing blue and yellow dice.

**BitDice**

# Initial Contribution Offering

BITDICE CASINO S.L.R.  
SYMBOL: CSNO

VERSION: V04 DRAFT

DATE: JULY 10, 2017

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# ICO DETAILS

## About CSNO token

The token creation process will be organized around the smart contract running on Ethereum blockchain using **ERC223 standard**

## Total supply

Only **100 000 000 (one hundred million)** tokens will be issued. The supply is locked.

## Price per token

To be determined based on the capital raised

## Payouts

**70%** of BitDice Casino profits will be distributed in ETH to all holders of CSNO each quarter, **pro-rata** the share of tokens owned.

## Dates

From **August 15, 2017** till **September 15, 2017**

## Minimum goal

**USD 10 000 000** equivalent

## Accepted



# IN BRIEF

BitDice Casino is a well-established and profitably operating cryptocurrency casino that is seeking capital contributions from the public to transform itself into a new-generation platform for online gaming experience.

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BitDice Casino is issuing **100 000 000 (one hundred million)** CSNO tokens, **70%** of which will be offered to the public and entitle for **70%** of BitDice Casino's net profit.

All the proceeds from this public contribution will be used for business expansion only.

Besides profit-sharing entitlement, the CSNO token will be one of the platform's currencies of choice. It will be used to place bets, cash out, and reward players.

The CSNO token will be exchangeable on the BitDice Casino website and tradable on multiple cryptocurrency exchanges.

# GAMBLING INDUSTRY

The online gambling industry is valued at a stunning USD 46 billion, and it is expected to grow to USD 56 billion in 2018. **Less than 5%** of this market is attributed to cryptocurrency gambling. Although the share of cryptocurrency gambling is rising, traditional online gambling casinos are in no hurry to give up their share.

BitDice Casino has been targeting cryptocurrency gamblers up to this moment and has managed to capture a significant part of this market. In addition, it has gained over BTC 2300 in profit.

But the greatest opportunity lies within traditional space casinos. Rather than sit and wait for the fiat players to gradually shift to the new paradigm, we want to be the first to get close to them, to build bridges and introduce the concept of “provably fair,” along with games that have a lower house edge.

In our perspective, the cryptocurrency gambling market is relatively dense and crowded, and it outpaces the flow of new players and keeps margins depressed. The logical step would be to get outside the box and start thinking “bigger.”

# **GAMES BASED ON BLOCKCHAIN**

## **(SMART CONTRACTS)**

Recently, we have seen a strong and ambitious move from gambling entertainment developers to build next generation games exclusively on blockchain (smart contracts). Allegedly, the main driver behind this move, apart from upbeat general sentiment, is to bring in a heightened transparency between a player and a casino.

BitDice realizes that, in the years to come, the tendency to fit online games into blockchain is likely to grow. However, our current analysis, along with multi-year experience in the industry, dictates that we continue to use conventional off-chain solutions for now, as the only economically sensible solution.

# CAVEATS WITH ON-CHAIN GAMES

We have identified several major hurdles associated with running the games on blockchain that negatively impact our decision to join the mainstream until recently:

- 1 Low speed and limited bandwidth capacity (latency between user action and subsequent result)**
  - Bets on smart contracts are limited to 2 per second per user, while BitDice Casino is able to process over 20 bets per second per user.
  - Upgrades will allow us to process up to 50 wagers per second per user.
- 2 Lack of flexibility in game variations and logic**
  - Some games are very dynamic in nature, where latency is simply not allowed.
- 3 High cost of smart contract execution**
  - For micro bets, it is a real deal-breaker, which makes certain games economically meaningless, as transaction fees can exceed wager amounts.
- 4 Inability to pay out rewards, incentives, and other bonuses to loyal players**
  - This is a serious limitation that puts the marketing part of the business at risk.
- 5 Insufficient control over players, to detect fraudulent actions related to bonuses and affiliate payouts**
- 6 Complications connected with seamlessness to play games**
  - Games on blockchain require a special Browser or a plug-in to play. Mobile devices are not supported.
- 7 Inability to attract clients who prefer betting with fiat currencies**
  - The share of this type of client is overwhelming compared to cryptocurrency clients.
- 8 Complications related to integration of complex-logic games to the platform aimed at maximizing wagered amounts**
- 9 Technically impossible to verify players' domiciles to comply with certain regulations**
- 10 Dependency on unknown 3rd party Oracle providers (Oracalize, random.org, etc.)**

And the list goes on.

# GAMBLING PROVIDERS' ICOs

BitDice has attentively monitored recently-run ICOs related to cryptocurrency gambling projects on blockchain and has detected that many shortcomings recognized here are having the exact same impact as described earlier.

## Example 1 - [www.vdice.io](http://www.vdice.io)

Started in June 2016, vDice has processed around 52,000 bets and has paid out around 13,000 ETHs to the players in gross winnings, which effectively put their house profit in the range of 1000 ETHs, according to our rough estimates. The house operates at a 1.9% house edge, according to their website - almost twice as high as the average dice project.

It should be noted, however, that vDice, having itself been built around “proclaimed transparency”, is having a hard time revealing its own gambling statistics. There are no figures to reflect basic metrics, such as wagered volumes, profits, etc. One should dedicate extra time to crunch the numbers from multiple Ethereum contracts to derive conclusions.

## Example 2 - [www.etheroll.io](http://www.etheroll.io)

Etheroll has processed around 26,000 bets since July 2016, and has earned roughly 650 ETHs in profits. Players have paid approx. 140 ETHs in transaction fees, which is more than 20% of the house profit.

## Example 3 - [BitDice Casino](#)

For the same period, BitDice Casino, operating on a 1% house edge with its dice game, has processed over 9 million bets in ETH alone. More than 157,000 ETHs have been wagered in total, and almost 3,500 ETHs have been earned by the house.

The striking difference between the blockchain-based solution and the conventional off-chain solution is that, as we see it today, the playing community does not seem to care that much about “sophisticated transparency.” In fact, players take a simple pragmatic approach in selecting a reputable casino provider with a verifiable track-record, low execution cost, and their favorite choice of games.



BitDice Casino is proud to provide this experience and is thus rewarded with loyalty in return.

The “provably fair” concept can be implemented off-chain as a reliable and verifiable method that technically excludes any possibility for a casino to cheat players, even if it really wanted to. This method is widely accepted by the playing community and has never been challenged. In BitDice perspective, as long as the players feel confident that the outcomes of the games are absolutely unbiased, they will take the path of least resistance, i.e. choose gaming providers where they can play fast and with no hassle.

## **BitDice Casino on-chain**

Yet, BitDice Casino is no way blockchain agnostic. We believe that in the future, the blockchain will undergo technological advancements and many of the problems related to speed and cost will be resolved. That’s why proactively, along with developing new games off-chain, BitDice will dedicate a great deal of effort to exploring various blockchain technologies for the purpose of transforming some of its games on-chain.

## **On-chain solutions**

Specifically, we will be watching carefully over the IOTA protocol - lightweight and simple in nature. Its role is to enable trust-free and fee-less transactional settlements, as well as tamper-proof data transmission. In IOTA, each component is a stand-alone application that is optimized for its purpose, without trading off performance or functionality for other applications. Additionally, this gives users of IOTA choice to tailor their usage of the protocol, instead of imposing the overhead of the features, even if they originally only need to use one of them for instance.

# USE OF ICO PROCEEDS

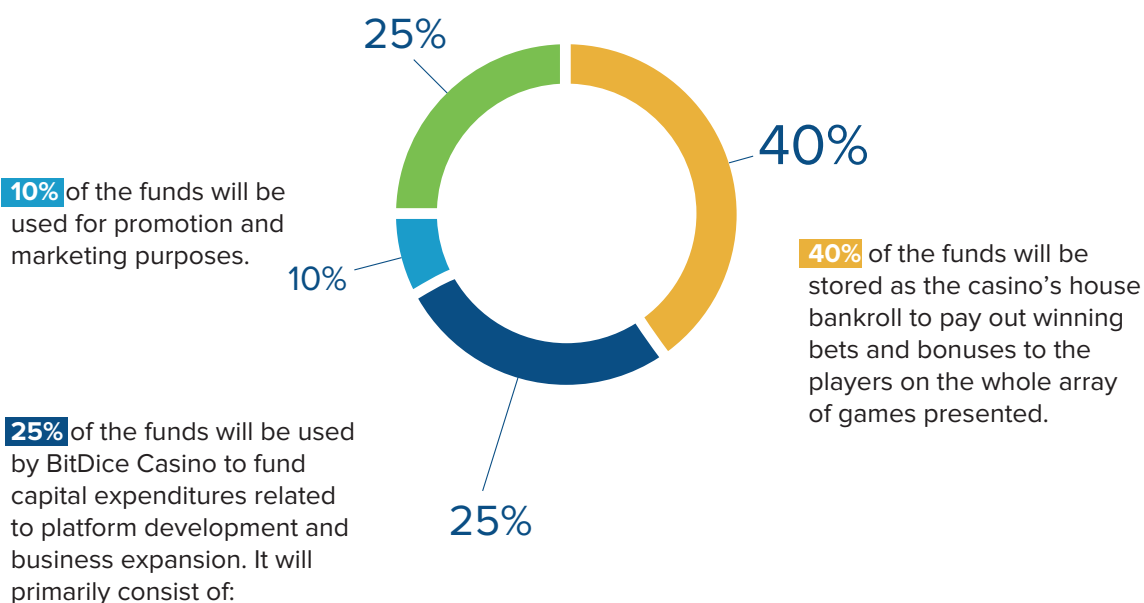
BitDice Casino is aiming to raise at least USD 10,000,000 to pursue its transformational strategy. For many years, it has successfully performed as a cryptocurrency gambling site, yet it is time to start “thinking big.”

Our ultimate goal is to enter the traditional online gambling market to offer fiat players a wider choice of absolutely fair and lower-edge gaming products.

To learn more about our development goals, please read the platform’s **Roadmap section**.

## We intend to use ICO proceeds as follows:

**25%** of the funds will be kept in vault as reserve. At BitDice’s discretion and dependent on market conditions, some portion of reserves can be used to buy out tokens on the secondary market to reduce public float.



The structure of proceeds utilization is designed to ensure the platform’s profitability in the long run with minimal operational risks. BitDice Casino is committed to implementing its strategy in the best interest of CSNO token holders.

# ROADMAP

We position ourselves as a gambling entertainment provider and will use the proceeds from contributions to build a complex one-stop platform that will combine in-house developed games, third party casino operators, sports betting, and much more.

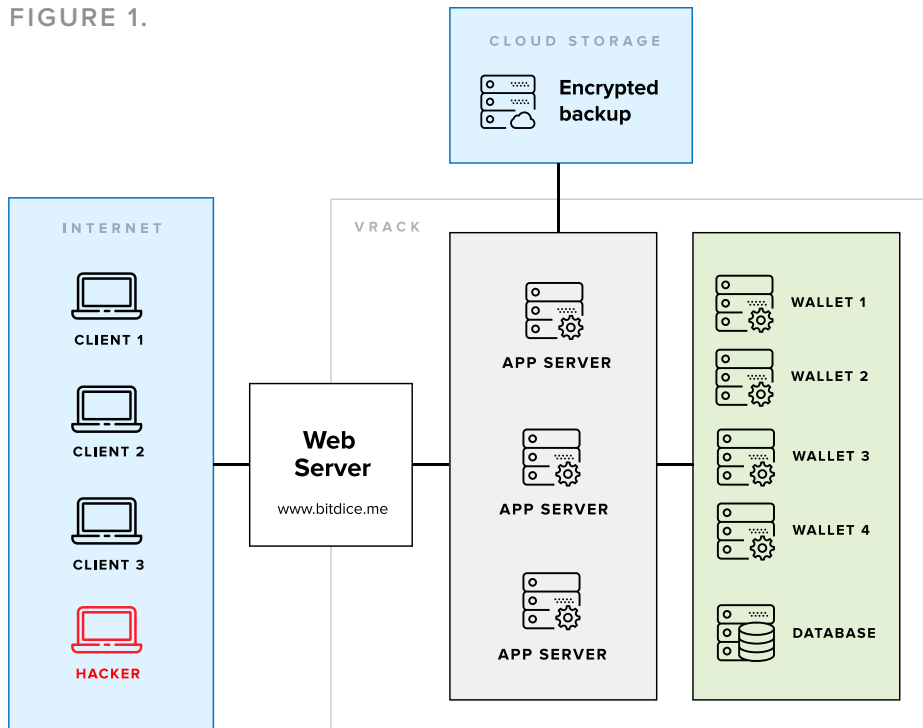
Apart from developing games and mobile applications, BitDice Casino will be experimenting with on-chain solutions to give players the option to try out the ongoing technological innovations in the gaming industry.

Our primary focus, however, will be on entering the traditional online casino market and getting exposure to the other 95% of the market, previously inaccessible to cryptocurrency gambling sites.

- **TODAY**
  - 2 300 BTC Profit
  - 20 000 Users
  - 230 000 BTC Wagered
  
- **Q4'17**
  - New slot provider (20+ Games)
  - Live Games
  - Start of Smart Contracts R&D (Ethereum/IOTA )
  - Add CSNO Token on-site
  
- **Q1'18**
  - BitDice's own games: Roulette & BitAces
  - Mobile App
  - On-Site Raffles Using Tokens
  - Licensing R&D
  
- **Q2'18**
  - Sports Betting
  - BitDice's own Games: Baccarat
  
- **Q3'18**
  - BitDice's own Games:  
Video Poker, Plinko, Slots
  
- **Q4'18**
  - Poker

# TECHNOLOGY

FIGURE 1.



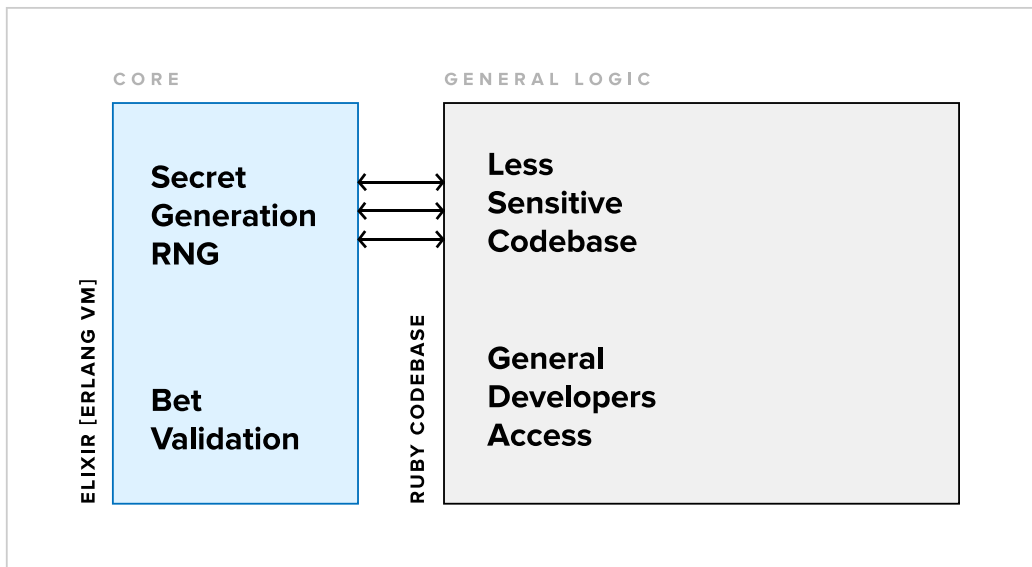
BitDice Casino uses a cutting-edge technology stack to provide users with greatest degree of security and high level efficiency. For security reason, BitDice Casino will not reveal the full setup of its systems, but we will describe, in general, how some of its core modules interact with each other.

The website is a public access point, which acts as a proxy. It is exposed to Internet users and communicates with a web server via VLAN (Virtual Local Area Network). Web server follows strict rules related to handling communication channels between other servers. Those servers are not directly accessible from the website and cannot communicate with each other without passing the web server. The typology of this kind ensures that the security level of the network is the highest available without sacrificing efficiency. (Figure 1.)

To provide additional security level within the network, Bitdice Casino splits the core back-end engine into several independent micro-services run with different access privileges. It helps to prevent gaining unauthorized access to data sensitive modules (such as secret seeds generation (RNG), bets verifications, etc.) among core BitDice developers. The micro-services are written in Elixir (Erlang VM), a highly scalable language that enables “zero downtime” updates. The technology we use in BitDice Casino is the same one used in many Telecommunication companies, when downtime issue is critical. (Figure 2.)

FIGURE 2.

BITDICE PLATFORM

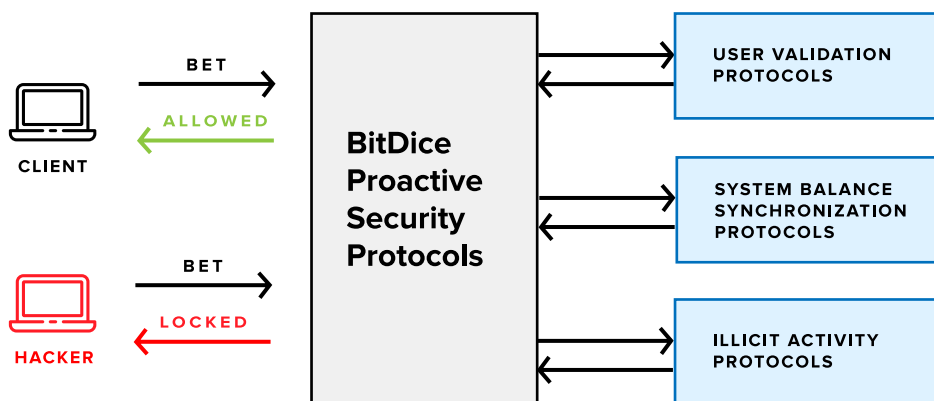


Although the most critical components are written in Elixir, the prevailing code is still written in Ruby language. BitDice sets out to get rid of the Ruby part of the code and fully move into Elixir by the end of Q1 2018 to improve betting latency from the current 20-40ms to 2-5ms. It will also enable us to handle concurrently several thousands online clients without any downtick in speed.

Security is a complicated thing to say least. None can be absolutely sure to claim that their system is 100% bulletproof from hacking. BitDice does not want to say it too. Yet, we can reassure that the current state of applied technology allows us to monitor the whole setup and expeditiously respond to any suspicious activity triggered from outside or within inside of the network. Our system collects the data on any type of activity that gets interacted with BitDice's servers. This data is constantly being analyzed and compared to the "mean" historical values, so that any outliers will trigger immediate alarm.

BitDice has never experienced unauthorized leakage into its servers and is proud to maintain the status of 'unbreakable service provider.' (Figure 3.)

FIGURE 3.



# BITDICE CASINO IN DETAIL

BitDice Casino S.L.R. was launched in 2014 and has been going through continual improvement. As of today and thanks to its loyal stakeholders, BitDice Casino operates as the largest online bitcoin casino with a crowdfunded bankroll of over 4000 BTC combined across different cryptocurrencies.

Over the years, the developer team has been at the forefront of dice sites innovation, carefully watching over the industry and searching for the optimal model to be equally attractive to players and bankroll investors alike. Today, one can safely claim that the balance was properly found and maintained.

We were able to grow significantly in revenue, profit, and number of unique clients. BitDice Casino is a recognized player in the bitcoin gambling community with a sustainable leading position.

## **Here are a few throwbacks to some notable facts about BitDice Casino in the past:**

- It was the first one among competitors to structure itself as a commercial entity (Republic of Costa Rica).
- It was the first one among competitors to implement the WebSocket technology with a mobile-centric focus, to ensure the fastest betting speed possible in the online casino industry.
- It was the first one among competitors to integrate the dynamic Kelly criterion investment model, allowing bankroll investors to fine-tune their risk profile for maximizing returns.

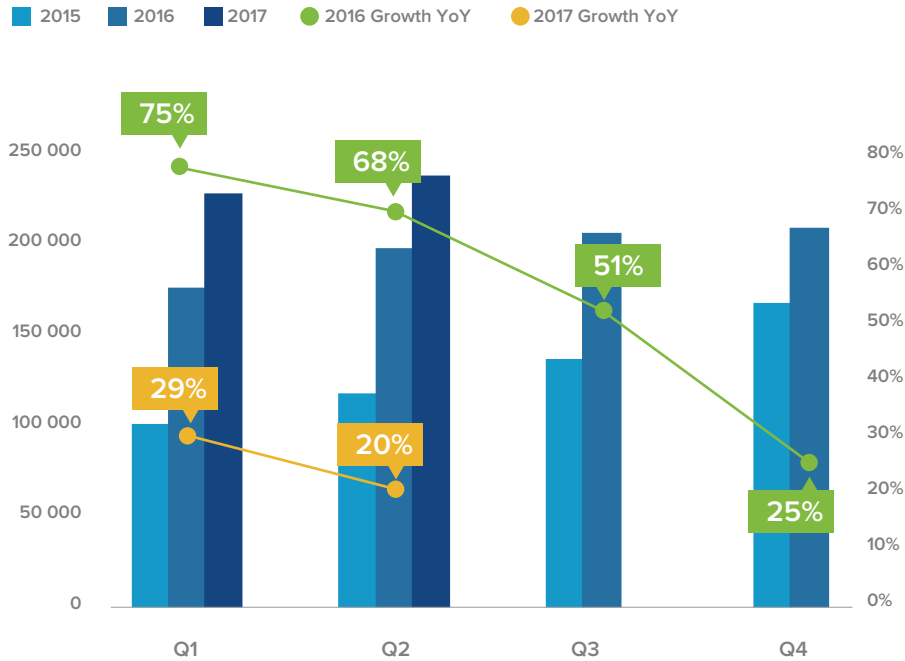
## **Performance in numbers**

BitDice Casino's historic performance is fully transparent and accessible through an independent monitoring agent at [www.dicesites.com](http://www.dicesites.com), which has been covering major cryptocurrency gambling sites since 2015.

Presently BitDice Casino operates a selection of games where Hi-Lo dice amounts for the largest share of the revenue stream. Over 70% of that stream is attributed to BTC bets; the rest is distributed among other cryptocurrencies, such as Ethereum, Litecoin, and DogeCoin. Traditionally, BTC bets have been the strongest stream throughout its history.

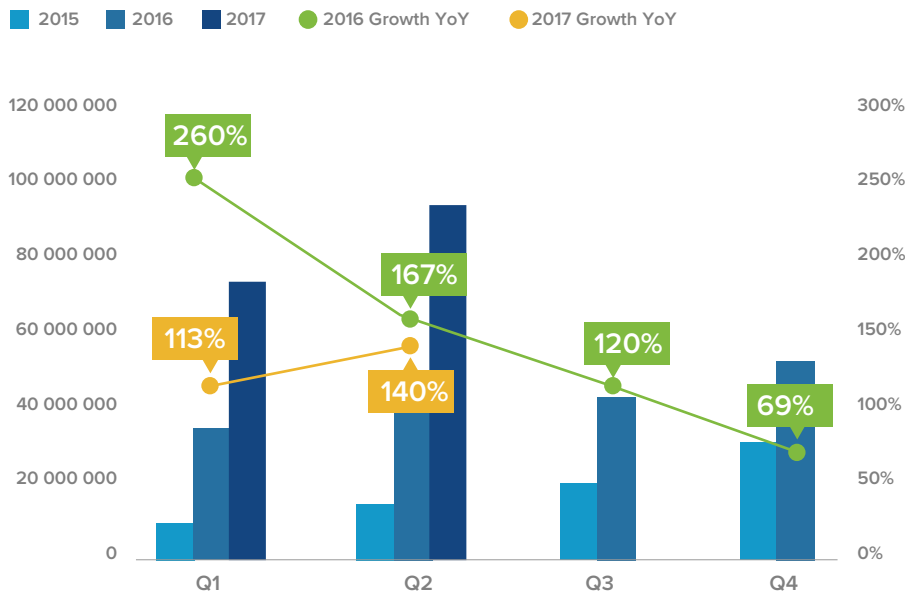
Over the last year and a half, the wagered volumes in BTC bets alone have surged on average 45% YoY and reached 232,000 BTC

### CUMULATIVE WAGER, BTC



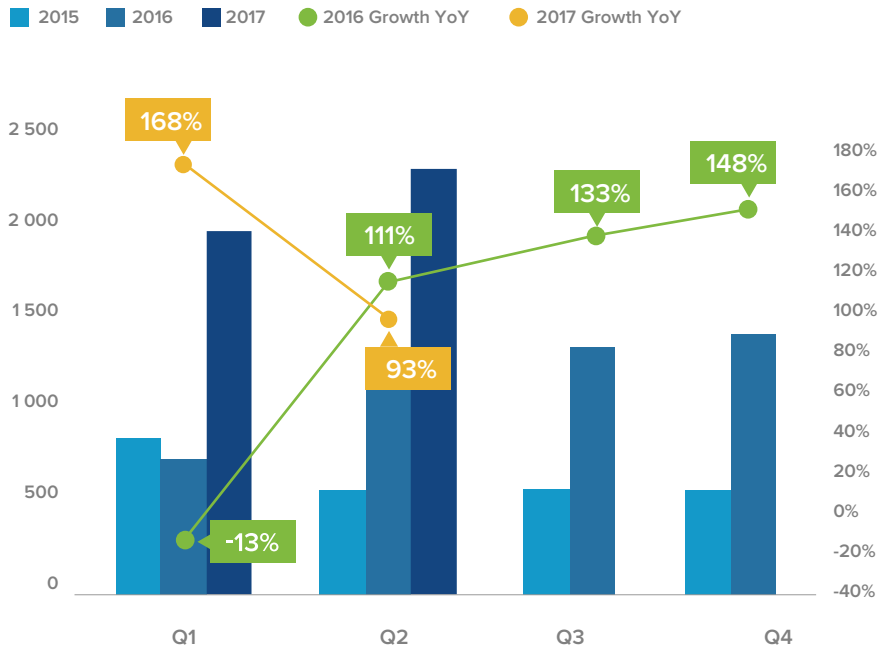
Over the same period, the number of bets has increased 144% YoY on average:

### CUMULATIVE NUMBER OF BETS



Bankroll profit steadily grew by 104% on average in BTC terms:

### CUMULATIVE PROFIT IN BTC

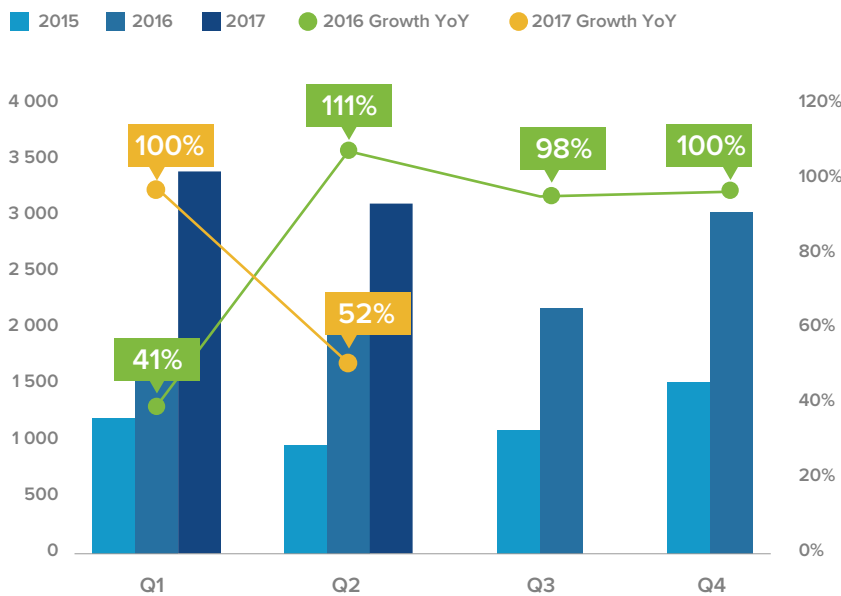


In USD terms, the growth has been even more staggering:

Similar positive trends are noted in other selection of cryptocurrencies, such as Ethereum, Litecoin, and Dogecoin. The public trust in BitDice Casino has steadily appreciated, as more people have undertaken investment opportunities in becoming part of the BitDice Casino's bankroll.

Bankroll investments in BTC alone have surged 84% YoY on average:

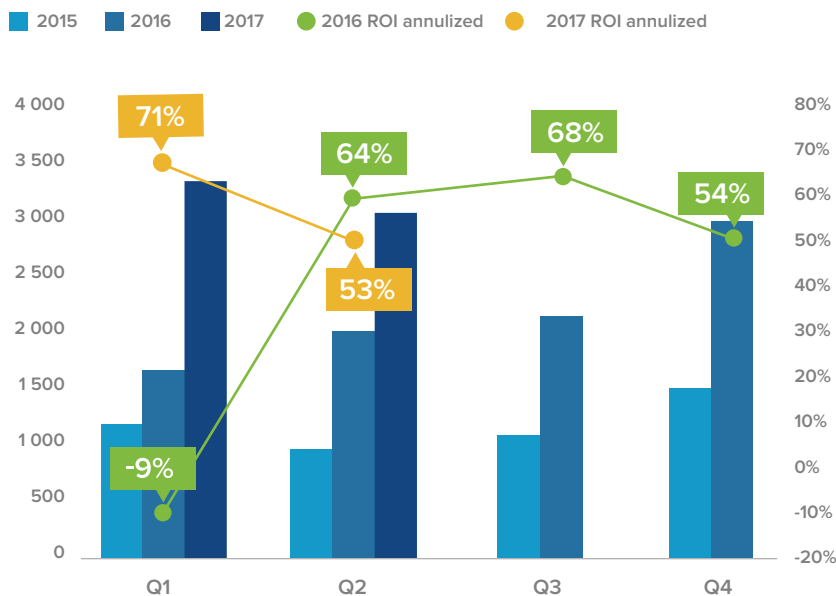
### BANKROLL INVESTMENTS, BTC





Investments in bankroll have returned 50% on average:

## BANKROLL INVESTMENTS, BTC



# CASINO SOCIALIZATION

The BitDice community has been evolving since day one, and today it accounts for over 20,000 unique users. It is absolutely important to keep players engaged and make sure they feel great being attached to BitDice community. BitDice never leaves its players alone, and there is always someone to help and to talk to.

**BitDice Casino employs a set of incentives to conquer users' loyalty:**

- 1** **Unscheduled trivia quizzes in chat rooms to tip active players during the day**
- 2** **A random selection of present users by RainBots to regularly send out tips**
- 3** **A number of other bonuses such as:**
  - Loss back - credits players a percentage of the amount they have lost
  - Bet back – credits players a percentage of the amount they bet
  - Daily Treasure Chest - a loyalty reward that BitDice users can claim once a day
  - JackPot - a progressive JackPot system, where 1% of the House Edge is added to the JackPot pool, which increases with every bet made on the website

# PROVABLE FAIRNESS

BitDice Casino is a stickler for fairness. It innovates business practices that are then followed in the cryptocurrency gambling industry. One such practice is to ensure that the outcomes of the games are absolutely random.

As a proof of its authenticity, BitDice Casino makes it compulsory that all games created by BitDice are provably fair. If a game is not provably fair, then BitDice and our esteemed player community have no use for it.

BitDice Casino verifies the RNG (Random Number Generator) certificates of all third-party games offered on its platform. If a game from a third-party provider does not have a verifiable RNG certificate, there is no chance it would be offered to the users.

BitDice casino makes certain to work only with reputable companies that also have zero tolerance for cheating and have never been caught cheating.

## **Presently BitDice offers its own games:**

- **Dice - provably fair**
- **BlackJack - provably fair**

It integrates numerous slot games from Endorfina, GameArt, and Habanero.

To learn more about how provable fairness is implemented, please read Technical section in help menu <https://www.bitdice.me/help>

# SECURITY

Security of funds and user information is our top priority. Over the years, BitDice Casino has faced myriad attempts to hack its system; the website has been under DDoS attack hundreds of times and we were asked for a ransom.

Proudly speaking, none of these attempts have ever succeeded. BitDice Casino is continually improving its end-to-end security measures, auditing processes, and reducing the “attack surface” of its infrastructure.

**To increase the security of users’ accounts, BitDice Casino suggests or requires users to implement the following measures:**

- **Complete an email confirmation whenever a player signs in on a new device and/or through a new IP address**
- **Enable two-factor authentication (2FA)**
- **Enable e-mail authorization for all logins regardless if they are from a device or IP addresses frequently used or not**
- **Enable IP whitelists to prevent possible unauthorized access from reasonably malicious IP blocks**
- **Enable the “Lock Withdrawal” feature, when withdrawals can only be made to certain addresses**

## **Cryptocurrency storage:**

The overwhelming majority of BitDice funds are stored in cold wallets. Only approximately 3% of these funds can be accessible in hot wallet for day-to-day operations. Cold wallets are not available from the platform servers, they are stored off-line and require manual intervention.

# FINANCIAL FORECAST

The injection of new capital will help us fulfill product milestones as described in the roadmap section. Each and every additional product or feature will further improve our strength and effectively add extra value to CSNO holders.

BitDice Casino has simulated a few tentative ROI scenarios to illustrate how different capital sizes will impact ROI.

**Below are 3 case scenarios with different input variables:**

Post ICO Forecast scenario:	Annually Wagered BTC	Annual Profit BTC	Annual Profit USD	70% Dividend	Earnings Per Token
Mediocre	555,045.6	6,217	US\$ 15,541,277	US\$ 10,878,894	US\$ 0.11
Optimistic	832,568.4	18,983	US\$ 47,456,387	US\$ 33,219,471	US\$ 0.33
Extremely optimistic	1,110,091.2	29,306	US\$ 73,266,019	US\$ 51,286,213	US\$ 0.51

BitDice Casino recognizes two primary input variables that will impact the future bottom line of the business.

- **Wager growth - a product of the casino's games options and clients base**
- **Attribution to higher-edge and lower-edge games.**

- 1 **"Mediocre"** scenario implies a 2x jump in wager with organic additional growth of 20% YoY. Profit implies 80% share attribution to 1% house edge, and 20% to high margin house edge 4%.
- 2 **"Optimistic"** scenario implies a 3x jump in wager with organic additional growth of 20% YoY. Profit implies 70% share attribution to 1% house edge, and 30% to high margin house edge 4%.
- 3 **"Extremely optimistic"** scenario implies a 4x jump in wager with organic additional growth of 20% YoY. Profit implies 60% share attribution to 1% house edge, and 40% to high margin house edge 4%.

Higher proceeds from the ICO will make implementation of certain scenarios more likely than others. For example, licensing and meeting compliance requirements for fiat currency games will demand substantial financial resources. The strategy to expand over that market is our ultimate goal and should give us a huge boost in revenue terms, and thus also in profits.

Similarly, the development and integration of new games with a higher margin will also correlate with the amount of capital we are able to raise.

According to our estimates, even in case of the most humble scenario, BitDice will be able to perform better than it does today. Our former bankroll investors and CSNO holders will enjoy higher ROI with regular dividend payments, boosted publicity, and recognition of secondary market.

**Probability of each of the scenario to pan out:**

● UNLIKELY ● LIKELY ● VERY LIKELY

Capital Raise Case Scenarios \$	US\$ 10,000,000	US\$ 15,000,000	US\$ 20,000,000
Public	US\$ 6,800,000	US\$ 10,200,000	US\$ 13,600,000
Owner (Reserve)	US\$ 3,000,000	US\$ 4,500,000	US\$ 6,000,000
Bounty	US\$ 200,000	US\$ 300,000	US\$ 400,000

Token unit price	US\$ 0.10	US\$ 0.15	US\$ 0.20
Token dividend yield ①	109%	73%	54%
Token dividend yield ②	332%	221%	166%
Token dividend yield ③	513%	342%	256%

# DETAILED ISSUANCE DESCRIPTION

## ICO Schedule

Initial Contribution Offering will commence on **August 15, 2017 (UTC 00:00)** and end on **September 15, 2017 (UTC 00:00)**.

## Token Supply

The CSNO tokens will be limited to **(one hundred million) 100,000,000 units**.

Only **70%** of the tokens will be released to public.

The remainder **30%** will stay in BitDice Casino Owner's possession.

## Token Price

The price of the token will be determined at the end of the ICO period and it will depend on the overall capital raised. The final price of the token will be calculated at the cut-off time using this formula:

**CSNO price = Proceeds from ICO (in USD) / 100,000,000 tokens**

## Accepted Contributions

Contributions will be accepted in Bitcoins, Litecoins, Ethers, and Dogecoins.

## Cut-off time

Cut-off time is the exact date and time when BitDice Casino will cease to accept any further contributions.

Cut-off time will be used as a reference point to count final balances across different wallets and determine cryptocurrency rates in USD value.

Cut-off time is the end of the ICO: **September 15, 2017 (UTC 00:00)**

## Allocation of Tokens

Once the final balances are counted and the rate of each funding currency is determined, the process of CSNO tokens allocation will kick in.

Within the following 7 days, everyone who participated in the ICO will be credited with CSNO tokens.

Each and every contributor will be deposited with CSNO tokens in proportion to its contributed share at the moment of cut-off.

## Token Creation Ratios

Early contributors will create more CSNO tokens than later ones.

### **The incentives are split as follows:**

First Week = 1.15 X CSNO per contribution

Second Week = 1.10 X CSNO per contribution

Third Week = 1.05 X CSNO per contribution

Fourth Week = 1.00 X CSNO per contribution

## **Existing Investors and the ICO**

All existing bankroll investors will be offered an option to convert their investments into CSNO tokens during the presale period.

As a way to provide our valuable stakeholders with an incentive and show appreciation, BitDice Casino will give every investor an additional 5% bonus on top of the 15% discount as the earliest contributors.

The presale period will only be available to existing bankroll investors.

In case the Investor does not wish to accept the offer, BitDice Casino will allow such investors a grace period of 2 months to divest and withdraw the funds.

All the funds that did not participate in the ICO will be automatically divested and returned to Bankroll Investors by the end of September 2017.

## **Off-Chain Crediting**

To avoid high load on blockchain and to increase the responsiveness during the ICO with minimal cost of token creation, BitDice Casino will issue its tokens in one transaction call.

The server will update contribution amounts in each currency in real time.

## **Disclaimer**

The token economy is relatively new and incredibly innovative. Tokens could be impacted by regulatory actions, including restrictions on ownership, use, or possession. Regulations or other circumstances may demand that the CSNO mechanics be altered in all or part. Therefore, BitDice Casino may revise mechanics to comply with regulatory requirements or other governmental or business obligations. Nevertheless, we believe our planned mechanics to be proper and likely in the final version.

Contributors assume risk when participating in the ICO. BitDice Casino could be subject to attack, bugs, or operational errors, and other unforeseen problems could result in the loss of stored value.