



# LedgerLocal

## LedgerLocal.com

Making cryptocurrency transactions easier for widespread use



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# Abstract

Since the creation of Bitcoin in 2009, Bitcoin has gained ever more traction and blockchain technologies have been increasingly used for various purposes. The first use case of blockchain technology is an electronic cash system, Bitcoin, where users can send money over the internet, just as they would send an email.

This invention has opened up more sophisticated use cases for blockchain technologies, such as Ethereum and Bitshares, which enable complex operations to be performed in a fully decentralized manner.

Bitshares was created in order to circumvent the issues associated with centralized exchange platforms. Indeed, exchanges represent one of the weak points in the crypto-ecosystem, since users have to rely on centralized entities that are able to defraud their own customers in various ways<sup>1</sup>. Bitshares offers a fully decentralized and open-source exchange platform, where users do not have to rely on any central entity to exchange using a high-performance blockchain.

**LedgerLocal enables the unbanked to benefit from digital money**

Exchange platforms not only enable exchange from one currency to another, they also act as gateways enabling people to wire fiat money from their bank account to the platform, and vice versa. The gateway function of exchanges makes them necessary on and off-ramps for any user who intends to start using cryptocurrencies.

LedgerLocal aims to rely on the best decentralized exchange (DEX) platform and adds a decentralized gateway on top of this technology, providing an integrated solution for anyone to trade fiat money and cryptocurrency safely, and use a convenient bridge with the real world.

## What is LedgerLocal?

LedgerLocal provides a mobile web platform that uses the best decentralized technologies to enable local exchange between fiat money and cryptocurrency, but also allows any merchant to accept any cryptocurrency as a means of payment.

Such an application actually requires the use of an exchange platform. Depending on the use case, users need to be able to hedge their positions in various currencies.

A merchant needs to pay his bills with local fiat currency. Merchants cannot therefore afford to keep their earnings in an extremely volatile cryptocurrency. Concurrently, a customer who is a firm believer in cryptocurrencies is willing to pay his bills using bitcoins or another cryptocurrency.

At LedgerLocal, we conclude that exchanging local fiat money with cryptocurrency necessitates the use of an exchange platform. Bitshares is the most efficient DEX available on the market, and LedgerLocal provides the first interface between the real world and the Bitshares community.

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<sup>1</sup> <https://legolas.exchange/static/public/legolas-whitepaper-en.pdf?v=13>

## The LedgerLocal token and value proposition

**Thanks to Bitshares, LedgerLocal provides seamless exchanges between cash and cryptocurrencies**

The LedgerLocal token will support the economy created by our progressive mobile web platform<sup>2</sup>.

We want our platform to be completely free for any user, however, some functionalities cannot be offered absolutely free of charge. This is especially the case when a user wishes to be certified by a third-party “identity validation system”. Indeed, in order to comply with local laws and regulations, in some countries users will need to be verified by a

third-party institution. Since this verification involves manual work, the service will require the payment of fees.

For some transactions, users will be willing to pay an extra fee to use an escrow and secure their transaction. Also in the case of escrowing, the user will be able to compensate the escrow entity using the LedgerLocal token.

In developing countries, unbanked people will have access to a digital wallet that enables them to manage USD, EUR, or CNY holdings without any restrictions.

## ICO details

The ICO will start with a pre-sale that will allow the developers to be paid for their work during the implementation of the project and also fund the communication activities in preparation for the ICO.

As soon as the alpha version of the product is ready and users can start to engage with our application in the real world, we will launch our ICO that will enable the expansion of the IT team, communication, and direct advertising. The funds collected during the ICO will mainly be used for the necessary consulting services of lawyers worldwide; this is essential to ensure LedgerLocal is compliant everywhere around the globe.

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<sup>2</sup> <https://medium.freecodecamp.org/an-introduction-to-progressive-web-apps-6aa75f32816f>

# The LedgerLocal vision

In a world where financial transactions can be performed on the internet using blockchain technology as easily as sending an email, an increasing number of transactions will take place electronically. Since billions of people are currently unbanked, LedgerLocal provides a solution that enables any unbanked individual to deal with digital currencies on a secured wallet free of charge. With this value proposition, LedgerLocal proposes to **revolutionize the entry and exit barriers in the crypto-world**, and connect an exchange platform with a reputation system.

Since the emergence of Bitcoin, the ecosystem has been relatively closed. Accessing or exiting the crypto-ecosystem continues to be a complicated process.

The greatest limitation is due to the fact that many financial transactions are reversible, while blockchain transactions are immutable. Consequently, using payment processors such as PayPal or credit card providers to buy bitcoins is fraught with complications.

Exchange platforms therefore mostly rely on bank wires to perform financial transfers in or out of the crypto-ecosystem.

In 2012, the platform [localbitcoins.com](http://localbitcoins.com) proposed another type of gateway, enabling cash-to-bitcoin in-person transactions. Other projects have tried to propose a similar service, but none have been as successful as localbitcoins.com so far.

LedgerLocal has identified a significant limitation of such a platform and proposes a smart solution for people willing to exchange cash to cryptocurrency in person.

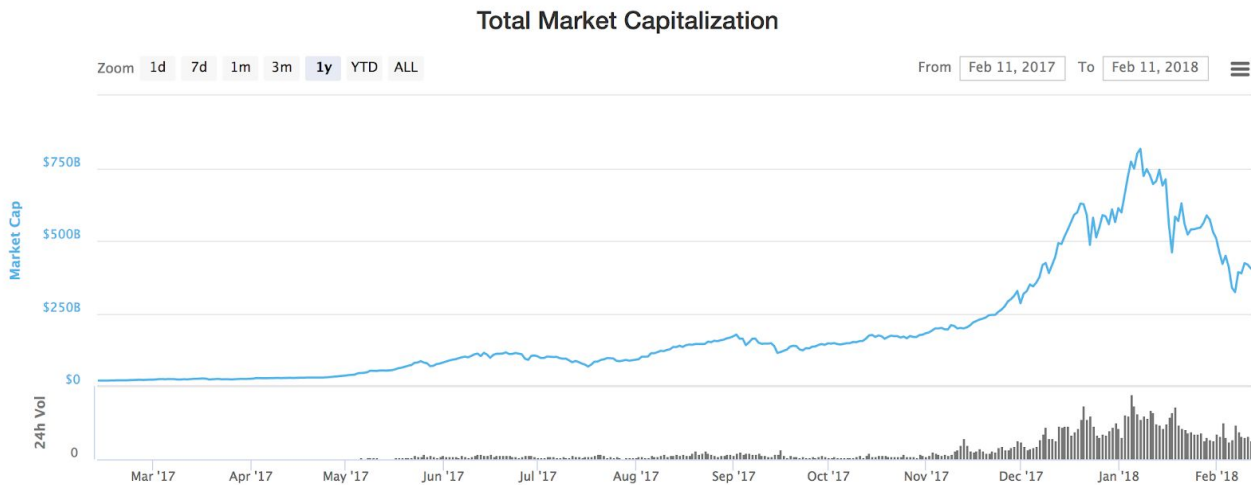
Indeed, LedgerLocal will associate this service with an exchange platform in order to enable users to manage their holdings in various currencies and secure them on a blockchain.

Many improvements have been made since 2012 with regard to decentralization and trustless systems. It is now possible to use fully decentralized exchange platforms such as Bitshares, and secure funds on such a platform, without the need to trust any third-party custodians to hold digital currencies.



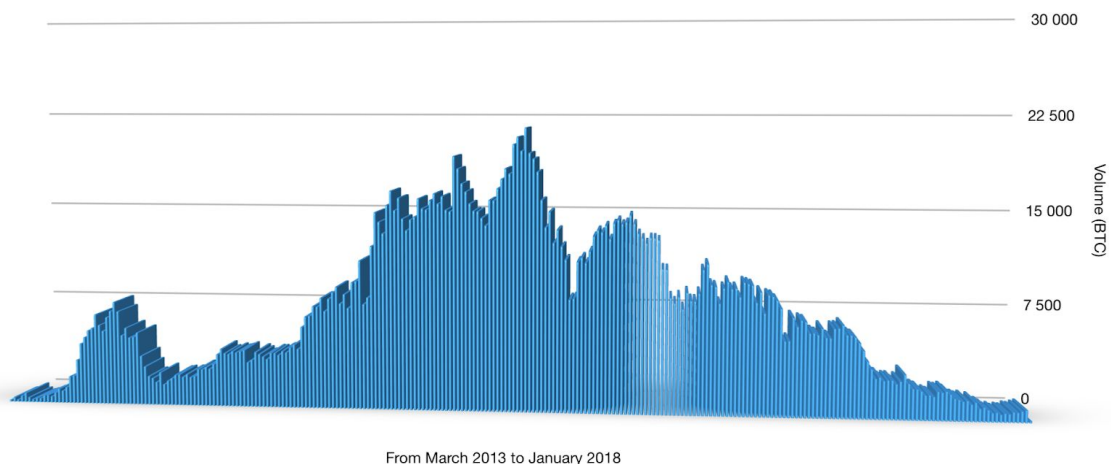
## The market

2017 saw huge growth in the cryptocurrency market, from a global market capitalization of USD 16 billion to USD 700 billion.



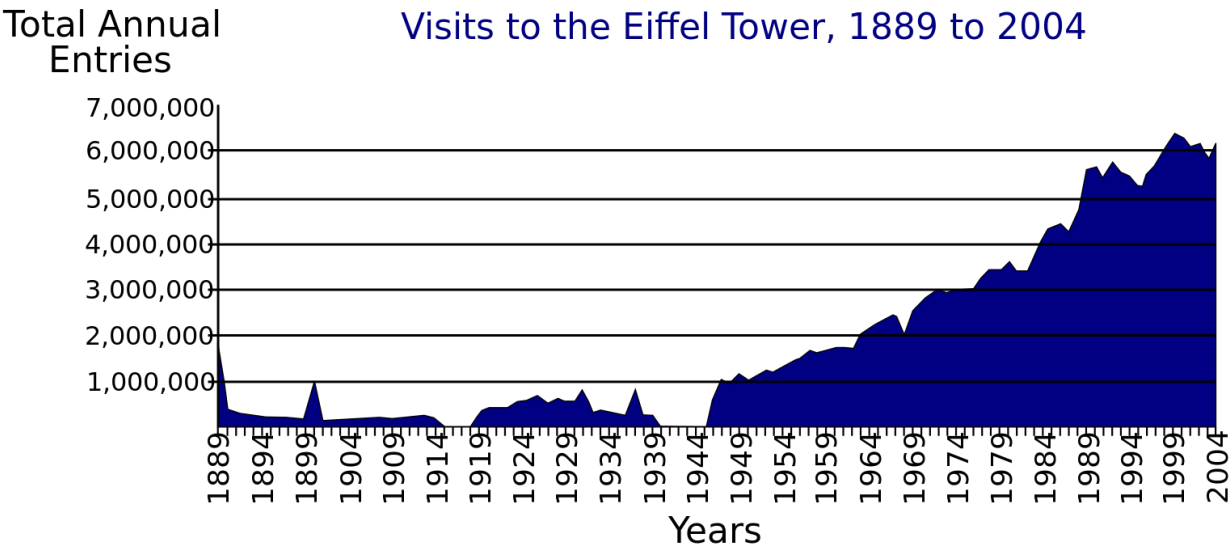
With almost 200 exchanges listed on [coinmarketcap.com](https://coinmarketcap.com), the vast majority of exchange transactions are performed on centralized entities, where users have to keep their financial holdings on platforms that can misbehave or even fall into bankruptcy, like MtGox in 2013.

[localbitcoins.com](https://localbitcoins.com) claimed a weekly volume of USD 14 million in August 2016<sup>3</sup>. We can actually see that this volume is currently in decline. Most likely, regulations as well as the lack of hedging possibilities explain this development. The relative importance of Bitcoin compared to other cryptocurrencies may also offer a suitable explanation.



<sup>3</sup> <https://en.wikipedia.org/wiki/LocalBitcoins>

For people who travel, LedgerLocal also offers the ability to easily convert local currency into another currency once they arrive at the destination, or to pay for goods and services with their own currency in stores, without using any banking solution that would charge substantial transaction fees. For instance, when Chinese people buy goods in Europe or in the US, they currently have to pay incredibly high fees imposed by the banking system.



## Our solution

LedgerLocal combines state-of-the-art technologies to enable trustless and frictionless local exchange. In order to build such an environment, LedgerLocal connects Bitshares with a progressive web app for interaction with the system, providing an interface for validators and for escrows.



## The stakeholders

- **Validators:** With respect to the local laws applicable in each country, the validator can perform the full KYC (Know Your Customer) process in order to link a customer to a valid identity. Validators are paid by users with LedgerLocal tokens.
- **Escrows:** In order to create an additional layer of security, customers willing to exchange against cash might require the use of an escrow, who will secure the funds of the seller in a 2-of-3 multi-signature wallet. In the event of any problems during the transaction, the escrow will have to resolve the conflict by performing a transfer between the buyer and seller. Otherwise, the buyer and seller can perform the transaction without the intervention of the escrow. The escrow will be paid either by the buyer or seller, using LedgerLocal tokens.
- **Users:** Comprising buyers and sellers, users interact with the mobile app to meet each other and perform transactions. Thanks to the connection with Bitshares, users can manage their wealth in various currencies, including fiat money as well as various cryptocurrencies. Users typically concern any traders, merchants, or customers.

## The technical infrastructure

A progressive web application  
facilitates easy financial interactions

In a world following the emergence of Bitcoin and blockchain technologies, projects must be conceived as **fully decentralized projects**. As the technologies are evolving rapidly, we can expect LedgerLocal to be fully decentralized in a few years. Unfortunately, as of 2017, it appears to be difficult to both develop a fully decentralized technology and simultaneously launch on the market very quickly.

The most important element is the decentralized exchange platform, which is now possible thanks to Bitshares. Users can access their wallet using a simple web interface that will be implemented in the first version of LedgerLocal.

However, further steps still need to be taken in order to make LedgerLocal a fully decentralized application. Web hosting and the reputation system still need to be decentralized and they will initially be available as a centralized version. In the near future, especially with the rise of new technologies such as EOS, we will be able to easily implement these outstanding components.

LedgerLocal will also provide a peer-to-peer encrypted instant messaging service. The service may require a centralized server at first, in order to be fast on the market, but it will be replaced by a truly decentralized system eventually.

The ambition of [LedgerLocal.com](https://ledgerlocal.com) is to provide a **trustless and frictionless platform that enables censorship resistance** and operates in a fully compliant environment.

# Use cases

## Exchanges

When considering exchanges between cash and cryptocurrency, there are two type of actors:

1. Users who want to use a cash gateway to access and exit the crypto-ecosystem
2. Users willing to offer professional cash exchange services to other users

An exchange is mandatory to perform business without taking risk with respect to the volatility of the crypto-market. This is especially the case for the second category of users, the professionals.

Generally, professional traders wish to make their earnings in fiat currency and they also want to be able to define their margin. For instance, a professional trader will sell bitcoins at a 7% margin and buy bitcoins at a 5% margin.

In this particular example, when selling bitcoins at a 7% margin, the buyer will come to the meeting place and hand over USD 1,000 in cash to the trader. When accepting the cash payment, the trader will convert USD 930 into bitcoin on the decentralized exchange and will send the resulting bitcoins to the buyer.

Conversely, when buying bitcoin at a margin of 5%, the professional trader will receive bitcoins that will be automatically converted into USD. If, for instance, the account of the trader is credited by USD 1,000, he will give USD 950 cash to his counterpart.

Using this mechanism, **the professional trader ensures his margin** and the casual trader has the guarantee that he always pays the current market rate, plus the transparent margin charged by the professional trader.

## Merchants



Thanks to this system, it also becomes very easy for **any merchant with a bricks-and-mortar store or e-commerce platform** to accept any cryptocurrency as payment. Indeed, most merchants are not interested in being paid with cryptocurrencies due to their volatility. Although there are a number of solutions such as BitPay that allow merchants to receive fiat currency by means of bank transfer while accepting bitcoins, these kinds of solutions require a complicated registration process that is time consuming and unappealing to merchants.

**A merchant cannot afford to take volatility risk** because the rent and goods typically have to be paid in local fiat currency. For this reason, a

merchant who wishes to accept cryptocurrencies must use a third-party service like BitPay<sup>4</sup> to accept bitcoins, for example. This is associated with numerous limitations, both in terms of the variety of currencies and the settlement process.

With LedgerLocal, any merchant can start accepting cryptocurrencies as payment. And for any payment made by a customer in any cryptocurrency, the balance will be converted before the transaction is performed into the currency that the merchant wishes to receive.

For example, a customer holds some of his wealth in bitcoins and litecoins, and intends to buy some goods in his local store, located within the eurozone. The merchant asks for a payment of EUR 140 and the system automatically converts either the customer's bitcoins or litecoins in order to transfer the correct amount to the merchant.

**A simple platform available for merchants to register free of charge**

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<sup>4</sup> <https://bitpay.com/>

# Liquidity

Bitshares offers a liquid marketplace where exchange transactions can be performed very quickly, thanks to a block time of less than three seconds.



LedgerLocal aims to bring more liquidity to the Bitshares marketplace and promote the platform to an increasing number of people. This will bring even further liquidity and additional usage of the blockchain.

Users will be able to use the following cryptocurrencies: ARDR, BTC, DASH, DGD, DOGE, EOS, ETH, LTC, MAID, OMG, STEEM, WAVES, and many others. The main fiat currencies, such as USD, EUR, and CNY, are also available, as well as many others defined by the Bitshares community as “smart assets”.

Fiat currencies	Cryptocurrencies (Most famous)
USD, EUR, CNY	ARDR, BTC, DASH, DGD, DOGE, EOS, ETH, LTC, MAID, OMG, STEEM, WAVES

# Reputation system

LedgerLocal requires a reputation system in order to provide users with a mechanism for rating possible counterparts on the platform.



In our use case, it is important that users can easily access the following information for any possible counterpart:

- Verification status (KYC)
- Number of transactions
- Volume of transactions
- Rating provided by other users
- Date of registration on the platform

Currently, there are only very few projects available in the crypto-space that are attempting to implement a reputation system. In fact, a challenge seems to be raised in finding an interesting and profitable economic system that is based on such a mechanism<sup>56</sup>.

As of the end of 2017, the most promising system is Monetha<sup>7</sup>. Unfortunately, this project is not yet available and only limited details are known about their future solution.

## Our solution

In the first instance, we will implement a reputation system that gathers all the aforementioned information.

In order to prevent basic fraud, which would entail creating a fake account, performing fake transactions, and therefore generating fake ratings, we will also take into consideration the number of unique users, with whom someone interacts. The inclusion of such a metric will make it much more difficult for a bad actor to build up a fake reputation, since they would have to undergo the time-consuming process of creating many accounts.

Each transaction will represent an interaction between two users on the platform. After each transaction, both parties will be able to rate their respective counterpart a score of one to five and leave a comment to

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<sup>5</sup> <https://cointelegraph.com/news/digital-word-of-mouth-how-blockchain-reputation-system-would-work>

<sup>6</sup> <https://steemit.com/reputation/@ervin-lemark/blockchain-reputation-system-is-the-new-buzzword>

<sup>7</sup> <https://www.monetha.io/>

justify the score. Scores as well as other details related to reputation will be available on the page that describes each user.

## Long-term vision

In the long run, we do not wish to maintain a centralized service for the reputation system. As soon as the technology becomes available and sustainable, such as EOS, we will switch to a new-generation blockchain that enables the creation of a simple tailor-made reputation system for LedgerLocal.

## Privacy



In the blockchain space, privacy is a very important issue that has to be assessed in every project, especially when it comes to financial transactions.

Bitcoin, the most well-known cryptocurrency available on the market, is not as anonymous as most people think. Indeed, the Bitcoin blockchain provides anyone with a public list of transactions as well as the balance of any Bitcoin address. Thus, as soon as a user performs a transaction with someone else on the Bitcoin network, the balance and the history of transactions of both parties are revealed to the other. Using statistical methods, it is then possible to estimate the global wealth of the other<sup>8</sup>.

### Feel at ease with security benefit of LedgerLocal

Bitshares offers a similar level of privacy as Bitcoin. The notable difference between Bitshares and Bitcoin is the possibility

offered by Bitshares for users to manage their wallet using a username. It therefore seems more complicated for each user to use multiple accounts on Bitshares, as they may otherwise do on the Bitcoin network.

For LocalLedger, **privacy is an important concern**. We intend to make sure that:

- Users can keep their global wealth private with respect to other users
- Traders can view the activity of their counterparts on their trading account

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<sup>8</sup> <http://bytemaster.github.io/article/2014/12/23/How-to-Maintain-Privacy-with-BitShares/>

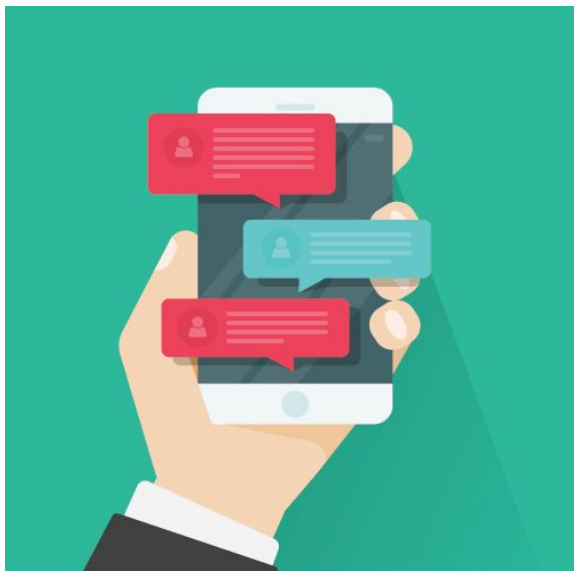
In order to achieve this level of privacy, LedgerLocal will allow users to automatically manage several accounts on the platform. Users will also be able to use an escrow service that will hide transactions from one account to another, thereby safeguarding privacy. This service will involve some cost, depending on the escrow service.

In this respect, all users will receive two accounts on Bitshares when they create their account on LedgerLocal:

- One trading account – used for all trades with other users
- One or several savings account(s) – used to store holdings on an account other than the trading account

In order to send tokens from one account to another, the mobile interface will provide an easy way to set up transfers. It will also be possible to select an escrow service that will serve as an intermediary for the transfer, meaning no direct link will be established between the trading account; other users will also therefore not be able to discover the savings account.

## Messaging service



It is vital that our users are able to easily communicate when using the LedgerLocal application.

Our first priority here is to provide a solution that is end-to-end encrypted, providing users the guarantee that nobody will be able to spy on their conversation.

Decentralized messaging systems are definitely possible with current technology and solutions already exist today. The use of a blockchain for this application is by no means a requirement, since we do not necessarily wish to write every message in stone, applying a blockchain mechanism.

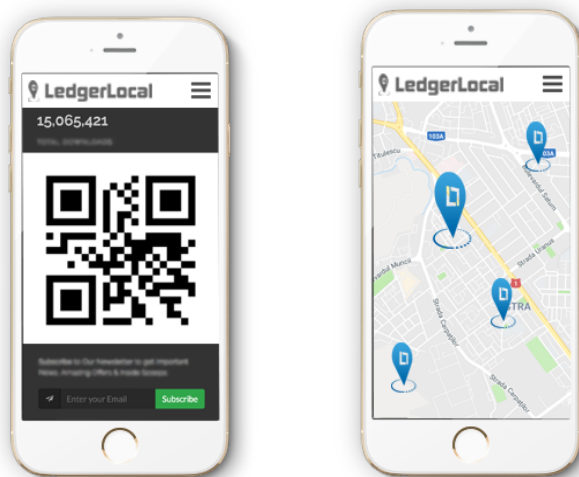
Our intention is first to provide a way to communicate, possibly with a central server initially. This will provide a basis for further development and enable the feature to quickly launch and operate on the market.

Eventually, we would like to have a messaging service that is purely **peer-to-peer and fully end-to-end encrypted** to ensure privacy.

# How it works: Our mobile interface and processes

## Wireframe

{Wireframe - mobile phone web app screens}



## Processes

LedgerLocal aims to simplify the processes as much as possible in order to make our application easy to use.

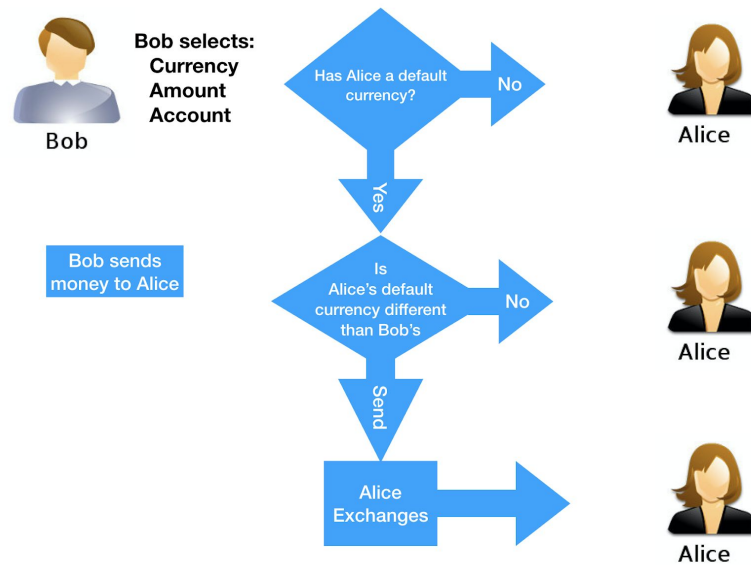
There are two ways to use the application: Users can either perform a digital-to-digital transfer, while paying a merchant for instance, or they can exchange cash into digital currency.

In the case of digital-to-digital transfers, the transaction is essentially very simple, although one of the two parties may have to carry out an exchange. Since we want the process to be as lean as possible, the application will check if the recipient has selected a default currency or not. If the recipient has a default currency, there are two possibilities.

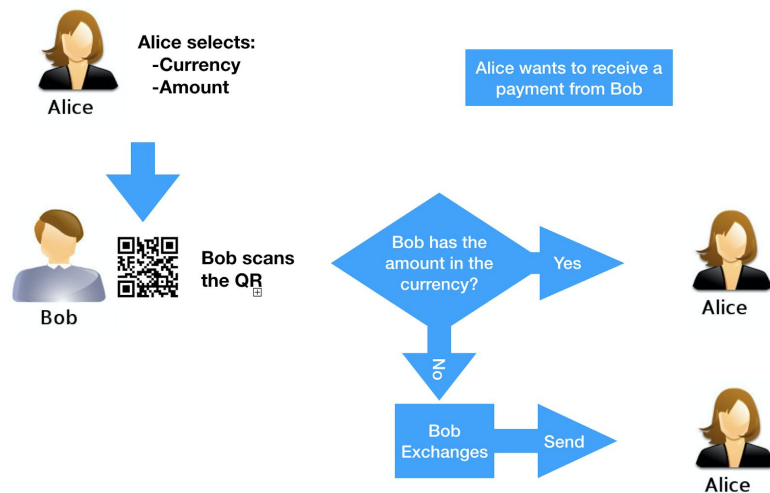


The two possible configurations are as follows:

**1. Bob sends money to Alice.** If the currency sent by Bob is different to Alice's default currency (if any), Alice will receive the amount after it has been automatically exchanged into her default currency.



**2. Alice wants to receive a payment from Bob.** Alice makes a payment request for a predefined amount in a given currency. If Bob has insufficient funds in the given currency, he will have to perform an exchange from another currency (his default currency, for example) in order to send the appropriate amount to Alice.



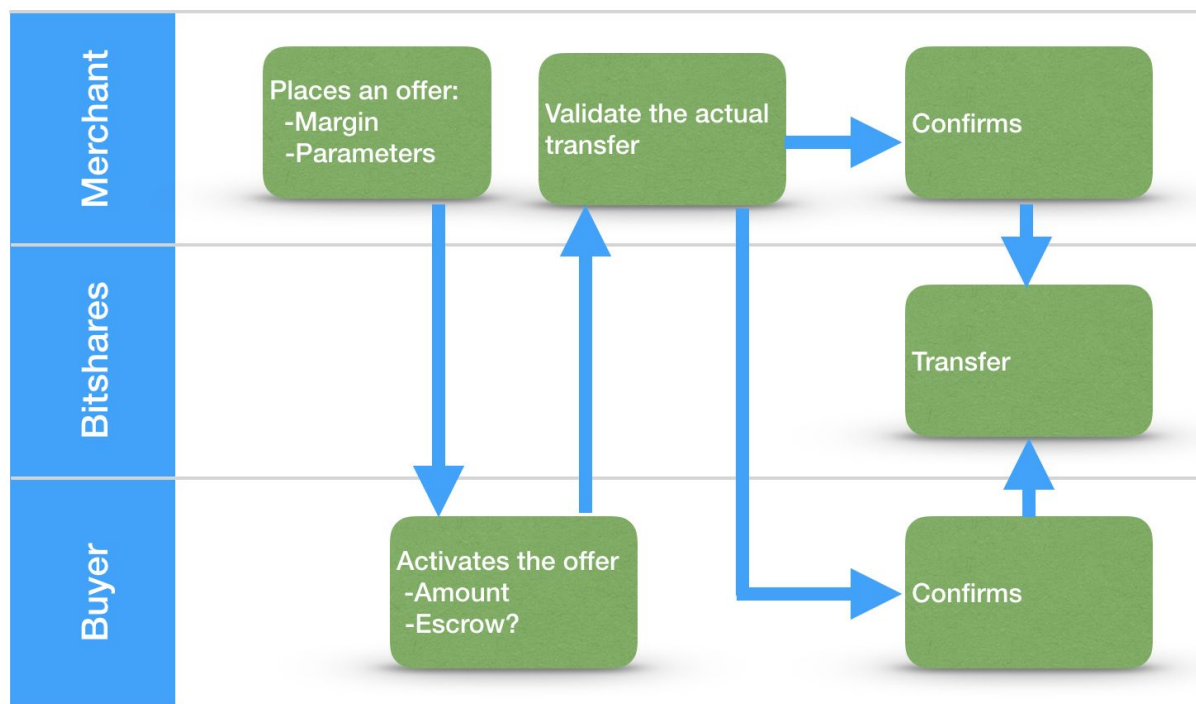
The only difference between these two scenarios is whether the exchange is executed by the initiator or the recipient of the transaction.

## A user-friendly interface for broad acceptance

Cash-to-digital transfers differ somewhat. Technically speaking, it simply concerns a transfer of an amount to another account. However, because there is another transfer of value, and this transfer might be

performed by a third party (such as Western Union, for instance), the full process has to be designed for this specific case.

The process needs to be initiated by responding to an offer to either buy or sell cash. The process of placing an offer will be described in the next paragraph. When responding to the offer, the user will have the option to use an escrow or not. They will also be prompted to enter the amount they wish to exchange. The counterpart has to validate the offer; the escrow will then be activated at the moment of validation. The rate used to perform the exchange will always be the rate at the moment the exchange is actually executed. When the cash transfer is actually performed, the owner of the offer has to confirm that the transaction took place. The digital transaction can then occur in accordance with the rules of the offer.



If you want to place an ad, our mobile interface allows you to create a post in which you can enter your GPS coordinates, description, and your terms.

In most cases, the terms are a margin to buy or sell cryptocurrencies, expressed as a percentage, for each direction (purchase or sale), transaction limits, and specific terms. Typically, a user will want to buy or sell digital fiat with cash and eventually trade this digital cash for other digital cryptocurrencies on the decentralized exchange platform.

As a merchant, you can simply create an ad with 0% margin, specifying that you only accept your preferred currency (typically local fiat).

## Open-source software

LedgerLocal uses Bitshares as its main component. In the event the decentralized technologies do not enable us to easily establish any kind of convenient, tailored ancillary systems, we will have to integrate them into a centralized server. We will ensure all our source code is open source. We will therefore open it up to anyone who wishes to contribute or audit our system.



Openness and transparency are key principles in our project. They also represent the same level of freedom that we seek to promote with this project.

You can access our GitHub repository [here](#).

## Use of BTS tokens by end users

When you receive your first transaction, **you need to have at least a tiny amount of BTS tokens**. Otherwise, you will not be able to use Bitshares to exchange or transfer digital currencies. Consequently, unlike actual gateways on Bitshares, when a user receives a transaction on their Bitshares wallet, our system will verify the BTS balance of the user. Here, we simply want to make sure that the user always has enough BTS tokens to perform ten exchange transactions and three transfers. At the time of writing, **this amounts to 0.06 BTS or 0.015 USD**. If the BTS balance falls below half of this threshold, we will use the funds received by the user to convert a sufficient amount into BTS tokens, crediting their account for at least ten exchanges and three transfers.

## Legal aspects

As early as 2014, some cash-to-bitcoin exchanges were charged<sup>9</sup> with violating state anti-money laundering laws in Florida.

Predominantly in the USA, cash-to-cryptocurrency exchanges are highly prohibited, and many countries, such as Germany<sup>10</sup>, are concerned by the possibility to perform such exchange transactions in an uncontrolled, untraceable manner.



<sup>9</sup> <http://www.businessinsider.fr/us/localbitcoinscom-targeted-by-feds-2014-2/>

<sup>10</sup> <https://www.coindesk.com/localbitcoins-exploring-options-service-halt-germany/>

**LedgerLocal is free and can be used by anonymous users without any restrictions.** This is particularly important to empower activists in non-democratic countries to be able to access the cryptocurrency market, without being traced by a government that does not respect democratic principles.

We are also designing our platform to provide a solution for unbanked people. In countries where the majority of the population is unbanked, regulation will not pose a barrier to the adoption of LedgerLocal. In these countries, people will use our platform free of charge, with the exception of Bitshares fees.

We also want to offer a platform that enables fully legitimate exchange transactions that follow the rules of western countries, such as the United States of America, or those of the European Union.

In order to make the platform fully compliant in western countries, users of this service will have to comply with local laws and regulations. We can expect the legislative framework to change significantly in the near future, due to the emergence of cryptocurrencies, and also because states will find it necessary to adapt their legislation to this new technology. For instance, in the context of border crossings, customs officers currently ask if the traveler has more than the maximum amount of cash permitted when crossing the border. This kind of question no longer makes any sense thanks to cryptocurrencies. Indeed, a traveler does not have the right to cross a border with more than EUR 10,000 in cash when leaving or entering the European Union, but what happens if the traveler's laptop contains bitcoin private keys associated a larger amount?

To address the legal concerns regarding cash-to-cryptocurrency exchanges, we propose that users validate their account with a local institution that has the right to perform a full Know Your Customer (KYC) procedure. We also propose the specification of limits for each country, in order to remain below Anti-Money Laundering (AML) thresholds.

Determining the standard KYC process in each country, finding KYC partners, defining the general terms and conditions, and setting the AML limits will prove to be a long and complicated process. In practice, every jurisdiction has its own laws and regulations, and we will need to consult specialists in each jurisdiction in order to adapt the software for the full spectrum of local characteristics.

We already anticipate that a number of countries will be reluctant to any use of LedgerLocal whatsoever within their territory. In this connection, we particularly consider undemocratic countries that, in any case, do not respect human rights according to the United Nations' charter. In these countries where authorities actively track activists, users will still be able to use LedgerLocal, but they will require special attention in terms of local practices.

We remind all users that they must comply with local rules, laws and regulations in order to conduct any kind of financial activity. LedgerLocal is merely a software program that enables people to contact each other and use decentralized technologies, including Bitshares, to exchange or transact. The people responsible for developing the software and its ecosystem are under no circumstances liable for any instances of trading conducted using this software.

Since it will take a significant amount of time to achieve **global compliance**, we will first focus on building the software. We will take care of compliance only after we have a stable version of the software that

anyone can easily use. In addition, we will have to wait for the ICO phase to be successfully completed in order to be able to consult specialists in various jurisdictions.

## Competition

The oldest platform available on the market that enables cash-to-bitcoin in-person exchange is [localbitcoins.com](http://localbitcoins.com). This platform has a long track record for cash exchanges and benefits from a positive reputation. However, it does not include an exchange platform. This is a significant limitation for any professional traders, who are always at risk when sending bitcoins to the platform. Another limitation is the fact that an exchange transaction is initiated before the physical meeting.

For instance, the person who wishes to buy bitcoins defines an exchange rate that has to be settled the next day, in person and in cash. In the meantime, the price of bitcoin may drop by 20% and the buyer might decide not to show up to the meeting. The seller would therefore be blocked access to their bitcoins in the escrow account, without being able to hedge their risk on the platform, and it may take several days for the seller's bitcoins to be returned. This may result in a substantial loss for the seller. In cases where high volatility is the norm, this could easily happen on a frequent basis.

[dether.io](http://dether.io) was launched in mid-2017 and is a smart contract based on Ethereum. It also fails to offer a smart way of hedging the volatility risk for those intending to operate as professional traders. It also only enables cash exchanges from fiat to ether, which represents another limitation of their concept. Although it introduces some elements of decentralization in the cash exchange market, it has many limitations that we are solving in our project.

In the Bitshares ecosystem, [bitspark.io](http://bitspark.io) is offering a remittance solution involving cash for international transactions. It appears to be a great use case for Bitshares, and we see this platform as a partner in the ecosystem, since our use cases are similar, although it is not targeting a global cash-to-cryptocurrency service.

The Mycellium smartphone wallet was initially designed to be a mobile wallet for bitcoins. It eventually added the possibility to advertise cash-to-bitcoin transactions, and also enabled the conversion of bitcoins to USD. Unfortunately, it does not offer users the option to manage their accounts on a web interface. This would be beneficial to anyone who wants to operate as a professional trader. It also does not include the automatic hedging function that LedgerLocal intends to integrate on its platform.

[Bitboat](http://Bitboat) is a platform that enables cryptocurrencies to be bought in cash in a few European countries. This platform is only one directional, meaning users are unable to sell cryptocurrencies on this platform. Moreover, when users wish to transact, only an indicative amount is displayed to the the customer. This is due to the fact that no exchange platform is linked to this platform. Last but not least, this platform is centralized and is intended to benefit its operational team, rather than the community.

# LegderLocal: A decentralized autonomous organization

Unlike many projects that are built on top of a foundation or company, we have decided to run our project in a fully decentralized manner.

- We will be using Bitshares to manage the wealth of the project.
- The accounting will be fully **transparent**.
- All token holders will be able to offer their opinion regarding the management of the project.
- Every participant may receive some financial compensation for their work (but each participant is responsible for declaring their earnings in their local tax jurisdiction).

As a decentralized project, **LedgerLocal is not tied to any jurisdiction**. Nonetheless, the participants are of course obliged to comply with their local tax authorities.

Every participant is liable for their own actions and no token holder can be held responsible for the project as a whole.

Most projects are willing to create a legal structure of control for several reasons:

- They want to be able to cash out their funds to a bank account
- They want to have a legally binding organization to govern their project

At LedgerLocal, we do not intend to use any bank accounts, and we want the project to be governed by simple democratic and decentralized principles.

Token holders will have the right to vote for the people who run the project, the right to vote for or against the budget, and vote on any decision that the board has to take for the future of the platform.

## DAO Processes

### The board

The board is elected every year and must comprise at least three people:

- The project leader – responsible for managing the project and communicating with token holders
- The lead developer – responsible for the technical aspects of the project
- The communication officer – responsible for the external communication of the project

Token holders are empowered to shape the LedgerLocal ecosystem

The composition of the board can change every year and must be approved by LedgerLocal token holders.

### The budget

Like the board, the budget has to be **approved** for the next year **by token holders**.

## Fund management

The proceeds of the ICO will be placed into the budget account of the project. Every year, following the approval of the token holders, the budget for the coming year will be transferred to the running budget account. The project leader will be able to dispatch the budget to the various cost centers of the project, such as communication, technology, human resources, etc.

The funds will be managed using a multi-signature wallet, controlled by board members. Depending on the number of board members, the number of signatures required to unlock funds may vary, and will always be equal at least 50% of the stakeholders. Initially, the multi-signature wallet will require two out of three board signatures; and in the future, if there are five members, three signatures will be required.

## Strategy and orientation

When the board intends to make any changes that affect the foundations of the white paper, they will have to produce an appendix to the white paper and propose a vote to the community of LedgerLocal token holders.

Investors may understand a decentralized autonomous organization (DAO) as an organization in which the rules are actually set down in code. Although this sounds neat on paper, such an organization is actually a structure that is run by real people in a dynamic environment. Given this fact, we believe not everything can be written in stone at the beginning of the project. However, we also wish to emphasize the democratic principle that forms the base of our philosophy.

## Voting mechanism

We propose a simple voting mechanism based on the principle: one token equals one vote.

On the Bitshares blockchain, it is not possible to immediately offer voting with the application of a user-issued asset. Some projects are attempting to create such a mechanism, enabling voting with the use of Bitshares technologies like FollowMyVote<sup>11</sup>. However, these options are not available for projects like LedgerLocal, which would like to use a simple voting mechanism in order to manage a DAO.

We therefore propose to manage votes directly on our backend, where the votes of token holders will be monitored and the results displayed.

The voting system will compute the percentage of actual votes for or against a motion. We consider those token holders who do not exercise their right to vote delegate their votes to those who do so.

Using such a centralized infrastructure for that purpose does not guarantee transparency in the voting process. We will use this mechanism as a temporary solution for managing the DAO. Eventually, we want to either use a blockchain that enables voting or EOS. This is because we understand EOS will provide the technology required to easily implement a simple voting system.

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<sup>11</sup> <https://followmyvote.com/>

**The global philosophy of LedgerLocal is that everything should be decentralized.** What we cannot decentralize at the moment must be decentralized at some point in the future.

## Transparency

In the case of many ICOs, it is not possible for investors to verify what amount has been raised. Investors only have access to the information displayed on the web frontend for the ICO. This creates another dimension of uncertainty for investors, as they are not able to verify the claims of the team behind the ICO. At LedgerLocal, we want to be extremely transparent with the funds we receive during our pre-sale phase and our ICO.

We will therefore display all the relevant financial data on our web frontend. In addition, we will provide direct access to our accounts on Bitshares, where any user will be able to view the balance of the accounts and see all the transactions performed by the LocalLedger team using the proceeds of the pre-sales phase and ICO.

**Transparency is one of our core values in this project.**



# The LedgerLocal token

Our token will be used to **support the whole ecosystem created by LedgerLocal**. It will be available for the following purposes:

- Paying for the escrow service
- Paying for verification by an institution allowed to perform a full KYC process
- Voting on any DAO resolutions and board appointments

Voting will remain free for LedgerLocal token holders. However, once we implement a truly decentralized voting system, storing a vote on a blockchain may require a minimal fee. It is our hope that we will have the possibility in the future to freely use a blockchain, without the need to pay anything, thanks to the EOS project.



The escrow service fee will be determined by each escrow on an individual basis. It may be a combination of a fixed fee and variable fee, depending on the size of the transaction. The escrow may also set up a resolution fee in case of conflict; this may likewise be a combination of a fixed and variable fee. The business model for an escrow should be based on maintaining low fees for every transaction and charging no resolution fees. The escrow market will be competitive and, in the end, the consumer will define the appropriate business model by choosing escrows with appropriate pricing models and good reputations.

LedgerLocal will also establish a market for any institution to verify users (perform a KYC procedure) of the platform. First, LedgerLocal will provide the legal framework for each country, and then the market for verification institutions will also become competitive. Users will be able to choose their verifier on the basis of their reputation and price.

## Token issuance

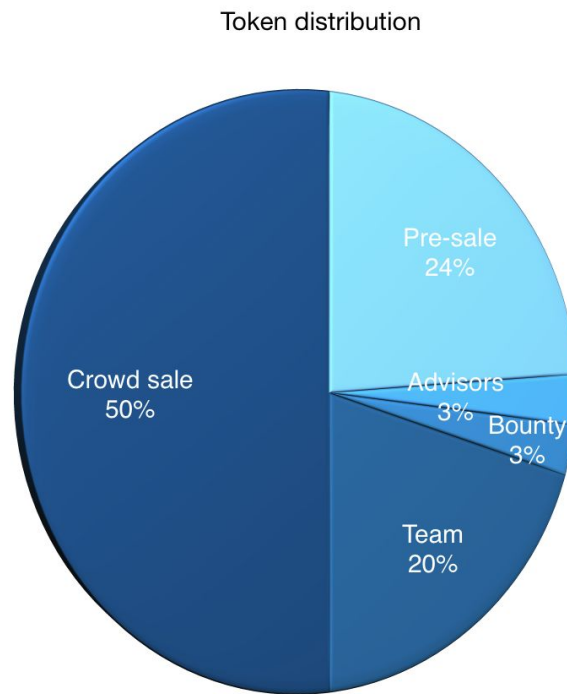
The token will be a user-issued asset on the Bitshares blockchain, released by the budget account of the project. All the tokens will be issued at the beginning of the project and distributed during the pre-sale and ICO, including among the project founders and contributors.

# The LedgerLocal ICO

In order to finance the project, there will first be a pre-sale phase followed by an ICO.

This will also represent the founding and initiation of the decentralized autonomous organization that will control the LedgerLocal project.

We will create 100,000,000 tokens, distributed as follows:



Our objective is to raise at least the equivalent of USD 1 million for the pre-sale phase. During the ICO, we aim to raise at least USD 20 million. The greatest share of the funds will be used to pay lawyers around the world, in order to find a way to ensure use of the application is compliant in as many countries as possible.

## Pre-sale phase

For the pre-sale phase, we will distribute 24,000,000 tokens to the early believers in LedgerLocal.

The tokens will be sold in tranches of 1,000,000 tokens, starting at a price equivalent to USD 0.01 per token. At each tranche, the price is expected to increase by at least USD 0.01. This will bring the price of the token at the end of the presale to USD 0.24 after the final tranche.

Essentially, this means the initial valuation of the LocalLedger token market will be USD 1 million, before ending the pre-sale phase at USD 24 million.

It is important to note that the above merely represents a prediction regarding the development of the token price; in practice, no guarantee can be provided for the direction and extent of actual price movements.



This reflects the fact that the earlier investments are made, the higher the risk is that the pre-sale phase will not be completed. As the pre-sale process progresses, the probability of fundraising success, as well as the success of the project itself, becomes ever greater..

We hope early investors in our pre-sale will invest in this project on its merits, without the intention of speculating for quick returns. We will mainly promote the pre-sale to personal contacts in a bid to avoid any kind of speculation before the actual ICO.

The funds generated by the pre-sale will be used directly by the core team of LedgerLocal in order to achieve the following milestones:

- Completion of the alpha software
- Completion of the beta software
- Preparation of the ICO
- Setup of the global communication for the project

On the one hand, we would like to avoid any form of intensive speculation on our token during the crowd sale. On the other, we wish to give our token holders full freedom to exchange their tokens as soon as they have purchased them. Since the principle of freedom underlying this project is more important than our concerns regarding speculation, we have decided that our tokens will be exchangeable as soon as

they are distributed. This means users will be able to trade them from day one. We may adapt our pre-sale prices accordingly.

## Bounty program

The bounty program is intended to encourage people to advertise our project and receive some free tokens in exchange for their contribution. There are many models for conducting bounty programs, and they are typically carried out on the basis of a thread on Bitcointalk or another forum. Bounty programs involves multiple manual steps in order to distribute the rewards to the program participants.

For our bounty program, we have decided to implement a referral scheme directly on our website. Anyone willing to participate in the program can open an account on our website. They will then receive a referral link that they can use to promote LedgerLocal. Any investor who uses a referral link to register their account will provide referral points for each LedgerLocal token bought. At the end of the pre-sale, we will count the number of points that all participants have earned. **We will then distribute 2% of the LedgerLocal token** among these people.

We have decided not to implement any pyramid-like design for this program, in order to avoid misconduct by participants.

As is always the case with our project, our intention is to maintain a highly **transparent program**, where any participant is able at any time to monitor their points and the total number of points distributed during the pre-sale.

## ICO

Preparations for the ICO will start as soon as we reach half of the pre-sale target. We plan a maximum of one year for the launch of our ICO.

We will sell LedgerLocal tokens in tranches of 1,000,000 tokens at the market price, maintaining at least one day following completion of a tranche, although possibly longer, depending on prevailing market conditions. Indeed, we may have to halt the sale of our LedgerLocal tokens in the event of excessive volatility.

## Use of funds

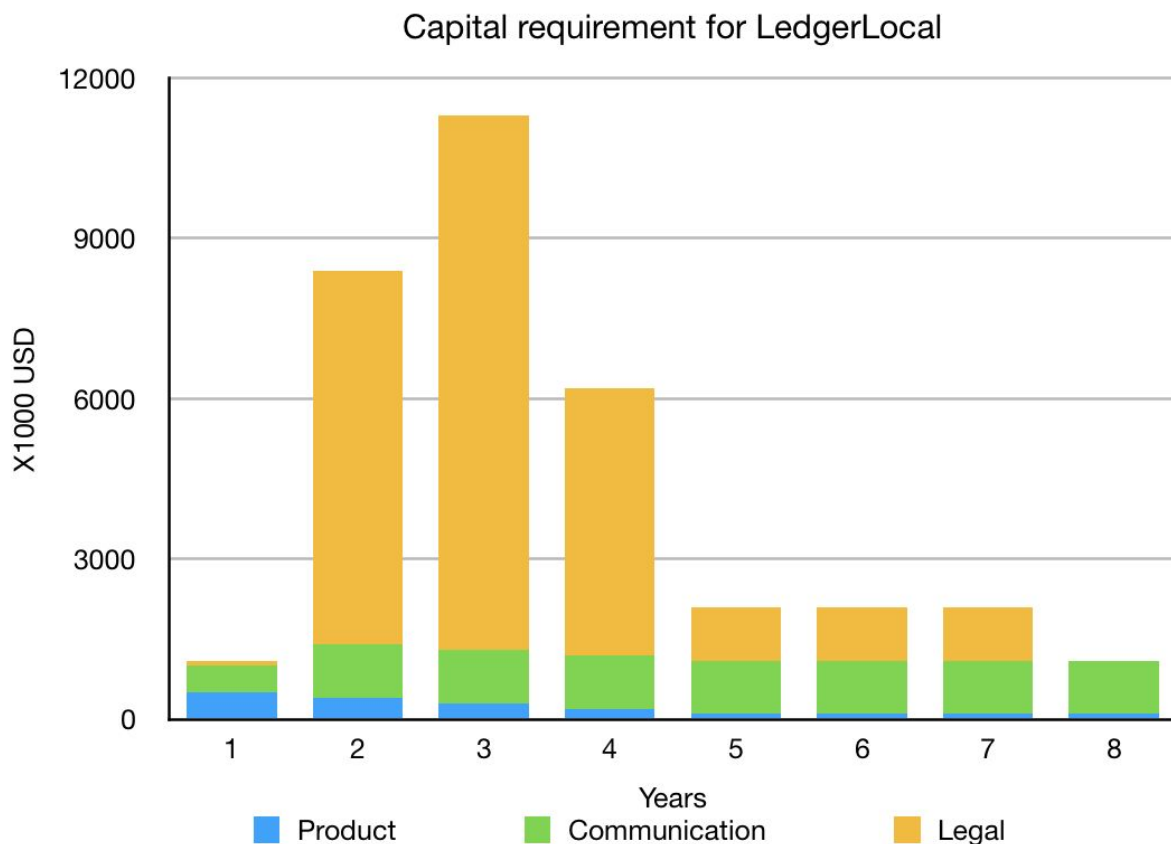
As we are unable in advance to state what amount of funding will be available for our project, the actual proportions may vary.

We believe the largest part of our budget will be dedicated to establishing the legal framework in as many jurisdictions as possible. The second largest portion will go toward communication. Technical development will represent the third-largest expense item.

We are able to provide the following rough estimation of costs:

- For the development of the platform, we anticipate USD 500,000 per year, decreasing over time. We expect running IT costs of less than USD 100,000 per year after the fifth year of operation.

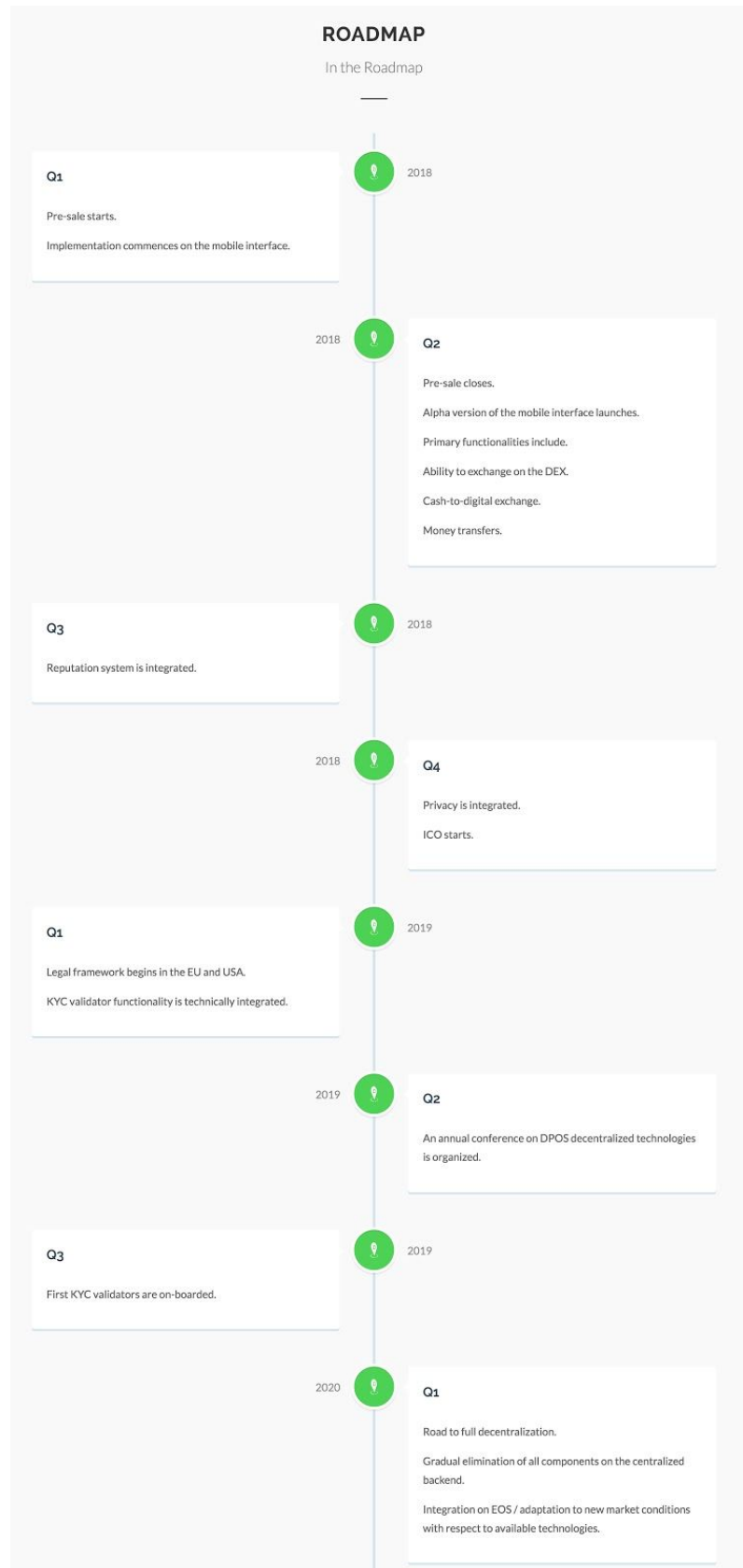
- Communication expenses have no upper limit.  
For the first year, we intend to spend USD 500,000 for communication and the preparation of the ICO. Eventually, we want to spend more, especially for the organization of an annual conference. The conference should not cost anything for organizers, other than time. However, there is always a risk that not all costs will be covered. Following a successful ICO, we will be willing to take this risk.  
To impose a cost ceiling, we will not spend more than USD 1 million per year on communication, as the money should be set aside for legal expenses as much as possible.
- We see the largest part of the budget spent on working with lawyers, thereby making our application compliant in as many jurisdictions as possible. To cover the USA, Canada, and the European Union, it may already cost tens of millions of dollars. We will subsequently cover the UK, Switzerland, Australia, the Middle East, the Far East, Africa, and South America. Again, this will require a tremendous amount of resources and funding for lawyers.



# Roadmap and use of funds

The idea behind the project arose back in 2013, before Bitshares was available. This idea has since been refined over time, as we have been able to observe the competition and gain experience on the crypto-market.

LedgerLocal officially starts with the beginning of the pre-sale, in Q1 2018.



# Team

## Operations Team

[Nicolas](#): Project Lead: Nicolas is an early adopter of cryptocurrency and blockchain technology. He has been active in the blockchain community since 2012. Passionate about new disruptive technologies, he founded one of the first bitcoin consultancy firms in the world, BTC-Consulting.org in 2013, and has been involved in many cryptocurrency-related projects. He also gained 10 years of experience in IT projects at Swiss banks (Credit Suisse AG) and insurance companies (Allianz), where he acted as business analyst and reporting specialist. Since the rise of blockchain technologies, Nicolas has been a firm believer of decentralization on the internet. He is convinced that LedgerLocal will contribute significantly to building a better internet for end users and businesses alike.

Nicolas holds a master's degree from the Institut Supérieur d'Electronique de Paris, and has published several scientific papers while working as a researcher at Stanford University (2004) and the Swiss Federal Institute of Technology of Lausanne (2005-2008).

[Alexandre](#): Development Lead: Alexandre is an IT expert specializing in blockchain technology. Alexandre has worked for several French banks (Société Générale and Credit Agricole), as well as Credit Suisse AG, where he gained experience in C#, search engines, triple-store databases, Kafka, Spark and further applications.

He started using a full Bitcoin node in early 2015 and worked on multiple blockchain applications. He has experience with blockchain technologies, including graphene, which he successfully applied for the loyalty market. Alexandre is also committed to delivering real-time applications.

Alexandre holds a master's degree from the Ecole supérieure d'Informatique, Electronique et Automatique in Paris and a master's degree from the Metropolia Ammattikorkeakoulu of Helsinki.

[Grigori](#): Web architect and design: Grigori is a bitcoin early adopter and independant web architect. He has been working on various projects in the crypto space such as Onemir.com, a fully client side secure bitcoin wallet. Grigori developed a complete server/client framework on which he has build a tool to organize democracy within a group.

[Audrey](#): Newsletter and Communication:

[Philippe](#): Bounty Program and Communication: Philippe is a former Canadian Army specialist in communication system. He joined the blockchain business sector in October 2017 as a bounty manager for SmartOne Legal. Later in November, he joined other ICO projects as the bounty manager and communication officer. He've been since then furthering his knowledge in the crypto and financial sphere.

[Lewis](#): Communications Editor: Lewis began researching Bitcoin followed by other blockchain applications in 2012, and is now an assured cryptocurrency advocate. Lewis holds a first-class honours master's degree in German and economics from the University of Aberdeen (Scotland), where he was

also distinguished with two endowed departmental awards for his linguistic ability (Douglas Yates Prize and Dr John Lees Prize, 2014). He has been providing his services as a German-to-English translator and content editor to companies in the areas of blockchain, gaming, online text and business since 2010.

## Advisory Board

[Robert](#): Bitshares supporter and Radix COO: A serial entrepreneur, true digital nomad and super networker, Rob has been a crypto-investor and blockchain evangelist since 2012.

Drawing on his considerable operations experience, Rob continues to hone the Radix operations, marketing, PR, community communications, exhibitions, and social media presence.

[Tarmo](#): Technology Advisor and Bitshares Supporter: Tarmo is a “Distinguished IT Architect” (The Open Group) and banking expert. Peer-to-peer systems have been his passion for more than 10 years. He has 20 years of experience in the financial sector, including 11 years as senior IT architect at Credit Suisse Global Enterprise Architecture, and one year as chief architect of the most prevalent Swiss banking platform. Tarmo has four master’s degrees and a Ph.D. He has also earned CFA and CAIA designations. He is the co-author of a blockchain book and writes a blockchain-themed blog.

[André](#): Legal advice:



## How to stay informed



LedgerLocal ties its success to the success of Bitshares and is therefore willing to go beyond merely promoting the platform. We want to promote the whole ecosystem as well.

Another aspect of the project will therefore lie in organizing a broad promotional event, for LedgerLocal as well as Bitshares, Graphene, Steemit, EOS, and associated projects.

The paradigm initiated by Bitshares and the delegated proof-of-stake (DPoS) consensus algorithm shows that a blockchain is not only a financial tool, but a tool that enables the true decentralization of any kind of application.

This concept deserves a dedicated annual conference that encourages developers all around the world to use these technologies and work together toward a better, decentralized world.

In the meantime, you can follow us on:

{logos}

Telegram channel

Bitcointalk thread

Bitsharestalk thread

Steemit

Discord

Website