

ALTO

WHITEPAPER v1.1

AI-driven and blockchain-based
cognitive commerce platform

Be aware that any purchase of crypto tokens is extremely risky. Never spend any funds that you cannot afford to lose. Make sure you read and understand this whitepaper, Terms of Sale and all possible associated risks.

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1 Project overview

Alto was born as a response to several key trends and problems identified in traditional retail as well as online shopping, where the use of the latter has exploded in the recent decade. The goal of our project is to offer a set of previously impossible or unanticipated solutions to discover, purchase, track and resell items. This is now viable thanks to the development of artificial intelligence and blockchain technology. These three main pillars, discovery, inventory and loyalty, will enable Alto to become an AI-driven and blockchain-based platform that acts as a personal commerce agent.

1.1 DISCOVERY

Discovery will use a deep neural network-based product recommendation engine to find the best deals for products users are looking for. Through a unique algorithm that will compare products based on their specifications and characteristics, Alto will also offer alternative solutions that match the users' requirements. Through Alto's chatbot, finding the right product will only take seconds. There will be no need to search for products in thousands of online sources anymore.

Users will be able to manage any online store account through Alto's unified shopping account. A single shopping cart and checkout process will suffice to complete purchases in multiple online stores at once. Users will be able to use a simple interface to authorize Alto to register with selected online stores on their behalf.

Alto's cryptocurrency payment gateway will enable users paying with cryptocurrencies, even if the online store they are buying from does not support them yet.

And to round up the discovery process, Alto will create a blockchain-tracked Digital Item Profile (DIP) for every item purchased through the platform, where users can store several records, including Proofs of Purchase.

1.2 INVENTORY

Every DIP will be automatically written into the user's inventory. In order for the user to have an overview of all the items in his household, he will also be able to manually add elsewhere purchased items.

Within the inventory, users will be able to see the AI-predicted current and future item value. Alto's household trading agent will notify users when the best time to sell the product is. It will automatically generate and publish listings on selected second-hand online stores with a single click. If a user chooses to replace that product, Alto will even propose a suitable replacement.

To make C2C transactions safer for the user, Alto will offer two solutions to both trading parties. With its Escrow service, Alto will act as a trusted intermediary and ensure fairness of contractual terms. The second option is a completely decentralized sale on the blockchain, where both parties will make a deposit into a smart contract as a guarantee. These deposits and the buyer's payment will remain locked until the contract terms are fulfilled.

1.3 UNIVERSAL LOYALTY

With both discovery and inventory pillars established, Alto will consolidate retailers in an integrated open-loop universal loyalty system and provide a simple and convenient user interface with a customer-centric approach. There will be no need to register with a standalone loyalty program of each merchant and users will be able to redeem acquired Alto tokens with any other network member.

Unlike the existing loyalty systems that give points, Alto will transfer value into Alto tokens and credit them directly to the user's wallet. Users will be able to earn loyalty tokens not only by performing certain actions on the platform, but also by making purchases at any other online or offline merchant, included in the program, or by simply buying them on an online exchange.

Although the majority of platform features will be free, some of them will only be unlocked with Alto tokens. With the adoption of cryptocurrencies, Alto tokens will be used for purchases at all merchants involved in our loyalty program.

Alto is anticipated to become a generally recognized and accepted platform for online shopping. It will be entering a market, where the amount of sales reached 2.3 trillion U.S. dollars in 2017 and is anticipated to double in the next four years (Statista, 2018).

1.4 VISION

Alto will serve as a jack-of-all-trades when it comes to e-business. By connecting blockchain and business, we will create a modular platform for commerce and save time that users spend on searching and purchasing products by utilizing artificial intelligence. It will advise users, which item to buy by taking into account item components, quality, price, shipping time and costs as well as other factors. It will enable users to securely and transparently sell their used items on multiple second-hand markets at the most appropriate time through their personal item inventories - Alto will transform every household into a business. All of this will be possible thanks to the innovative use of existing AI and blockchain technologies.

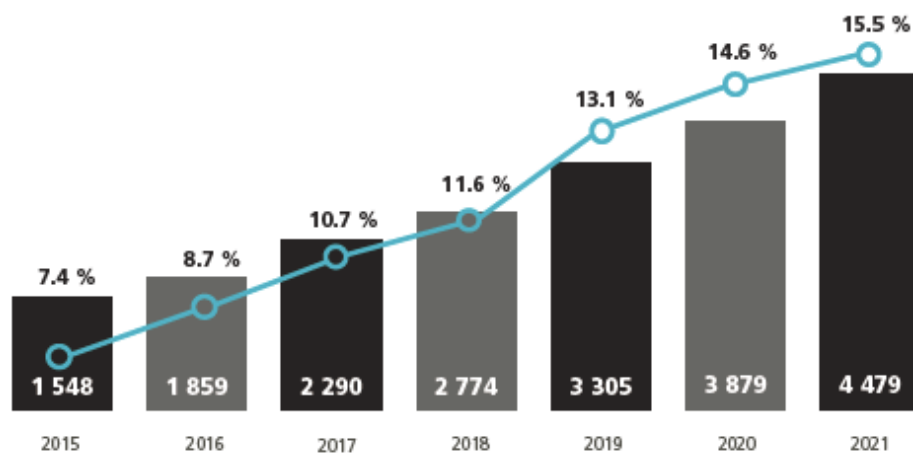
1.5 MISSION

Alto's mission is to optimize the online shopping experience and through it help people save the one thing that can not be bought - time. Alto will strive to offer transparent and secure C2C trades, decentralized loyalty program and help bring cryptocurrencies into mainstream.

2 Market research

2.1 MARKET SIZE

Online shopping is one of the most popular online activities worldwide. In 2016, retail e-commerce sales worldwide amounted to 1.86 trillion U.S. dollars and e-retail revenues are projected to grow to 4.48 trillion U.S. dollars in 2021.

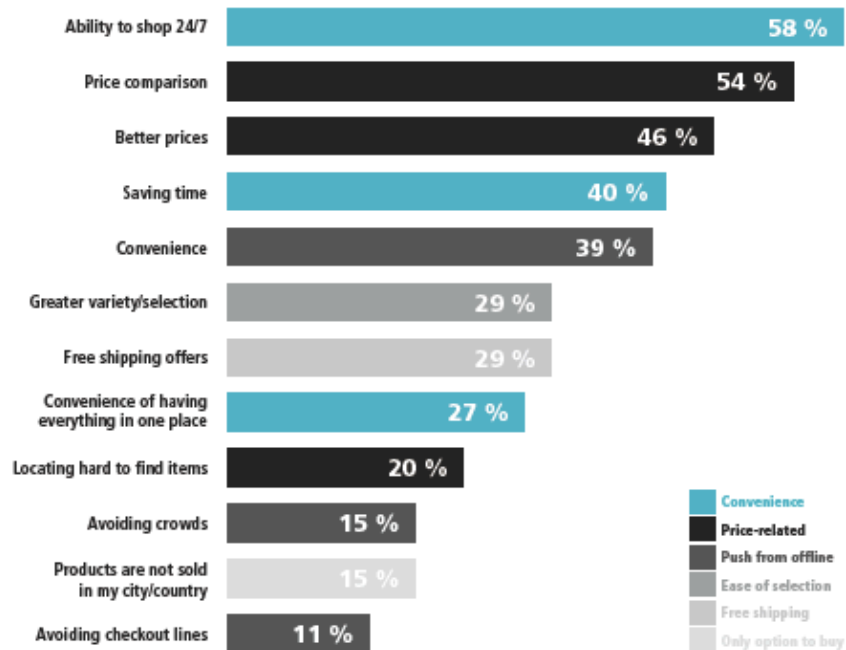


Retail e-commerce sales worldwide from 2015 to 2021 (in billions of U.S. dollars) E-commerce share of total retail sales from 2015 to 2021

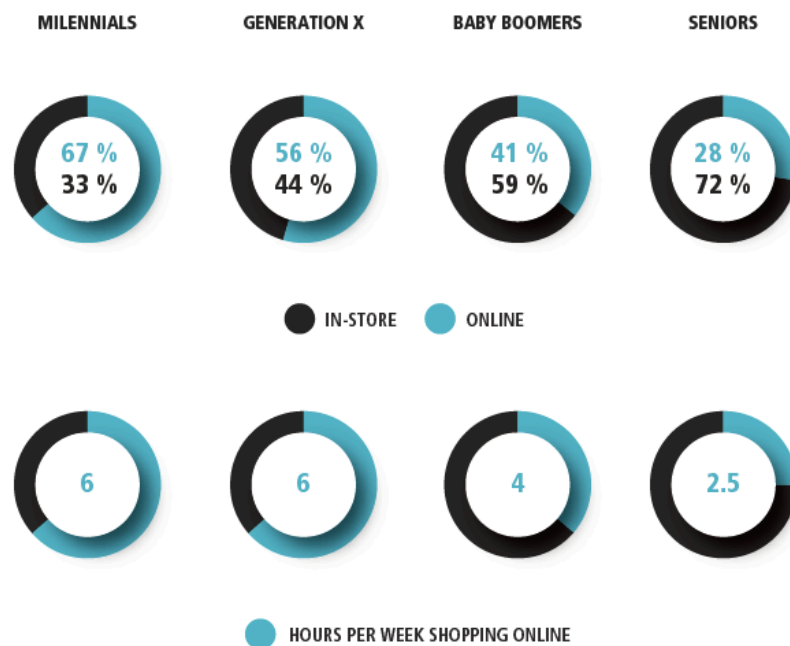
2.2 E-COMMERCE TRENDS

The habit of buying products online has exploded in the recent years. There are two main reasons for that happening: the expansion of internet access across the world (in December 2017, 54.4 % of the world population was using internet²) and people becoming more accepting of online shopping as technological changes have made it more convenient and easier. Online shopping does not know geographical and time boundaries. Customers can now place orders internationally and 24/7. The possibility to shop at any time and the ability to compare prices and find better deals are the main reasons consumers rather shop online than in physical stores³.

Reasons consumers shop online instead of in stores

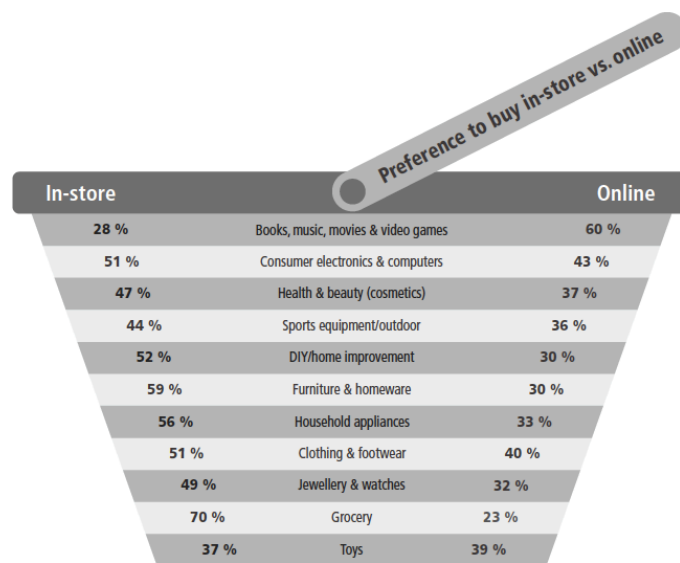


The BigCommerce⁴ survey revealed that 67 % of Millennials and 56 % of Gen Xers prefer to search and purchase on e-commerce sites rather than in store. Both groups spend on average 6 hours shopping online per week.



Purchase decision

More and more people value their time and that is why online shopping is growing at such a high rate. Retailers are transforming their stores into showrooms and sending their customers to finish the purchase process online. Preferences to buy in-store vs. online are different amongst different categories, but with every year the percentage of online sales is growing.



Source: PwC, "Total Retail 2017", 2017

2.3 SECOND-HAND MARKET

The second-hand market has its own specifics, but is growing rapidly. With companies like LetGo raising incredible amounts of money (Letgo raised \$175 million U.S. dollars⁵) in the used goods segment, it is apparent that this market has a lot of potential.

However, both sellers and buyers are facing risks when performing such transactions. Even eBay admitted that there is something wrong, as their system was built on the assumption that most people are honest⁶. A large number of frauds are making consumers hesitant to sell or buy on second-hand markets as those markets are doing a poor job protecting them.

BILLION US DOLLARS



Annual net revenue of eBay, currently the largest used goods marketplace, has grown by 7 % in 2017 and has reached almost 10 billion U.S. dollars⁷.

2.4 DISPERSED ONLINE STORE ECOSYSTEM

According to a research done by Omer Rachamim in 2014, there were 12-24 million online stores in the world, but only 650,000 out of them were generating annual sales of more than a thousand U.S. dollars⁸.

With all the online stores available, one of the main drawbacks is the necessity to register to complete a purchase. Nowadays people are losing track of stores where they are already registered and statistics show that 23 % of shoppers would not complete the purchase if they had to register again⁹.

To solve these problems, online retailers are trying to provide a more personalized experience, as it is very likely that such an experience can increase the number of purchases.

Number of online shoppers that believe it is easier to find more interesting products on personalized online retail stores:



Number of online shoppers that are more likely to return to a site that recommends products:



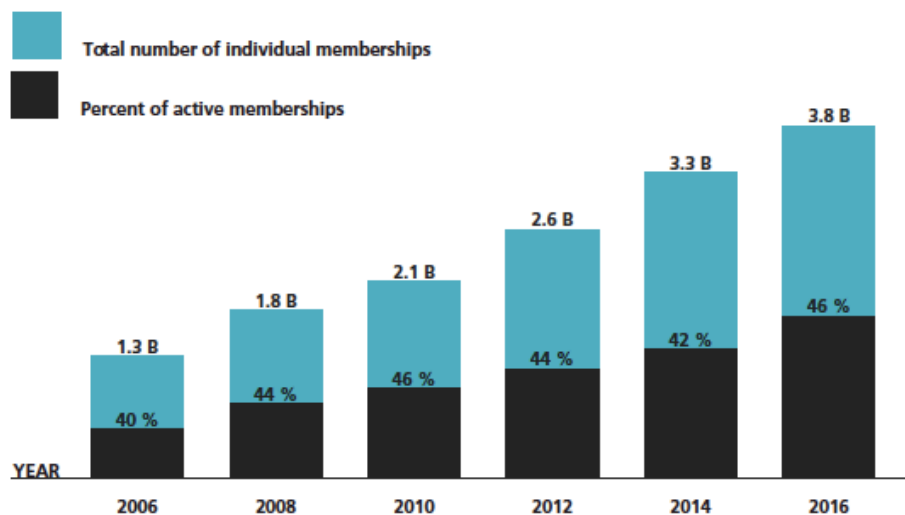
Consumers are embracing this; retailers are incorporating better engagement and adding a social component, AR and VR, machine learning, speech recognition and visual search, different delivery options, simplicity over complexity, blockchain technologies and cryptocurrency payments. More than 85 % of consumers said that they are more likely to shop with retailers that deliver personalized and connected cross-channel experiences. People would rather buy from a retailer that recognizes them and recommends options based on their previous purchases and their habits. Personalization is expected to undoubtedly increase sales in the future¹¹.

2.5 LOYALTY PROGRAMS

While almost half of all loyalty programs are established in the retail industry, one of their main drawbacks is that they are not connected and not monetary by nature. All suffer from being too similar to others and not innovative enough. According to research, the number of loyalty program memberships in United States tripled in the last decade. An average American was a member of at least 10 different loyalty programs back in 2016, but more than half of those memberships remained inactive, confirming that the loyalty program industry is facing issues.

Number of individual Loyalty Program Memberships in the US¹³

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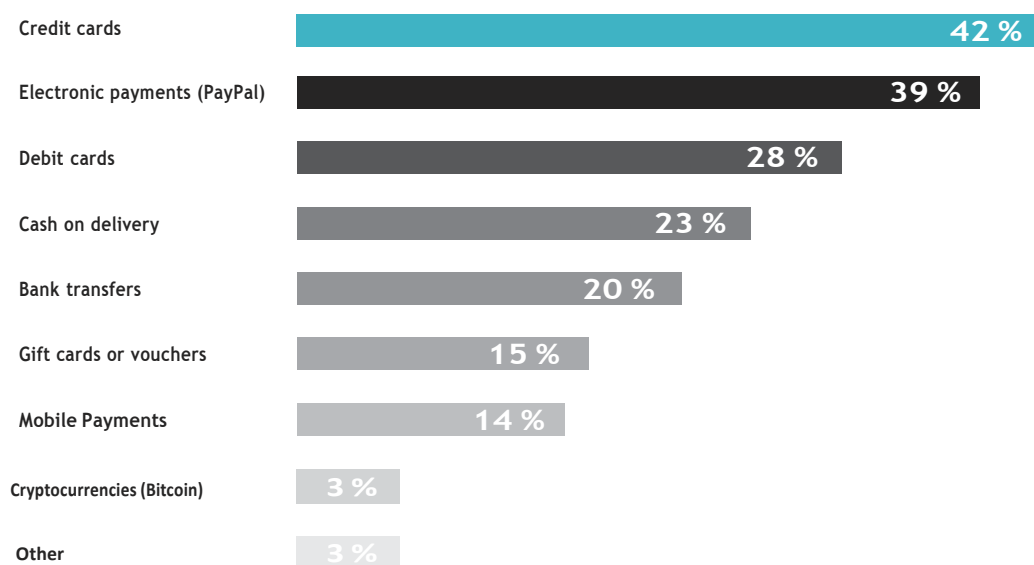


Due to the number of unconnected loyalty programs, it has become impossible for the average user to track them, redemption rates are low and small providers find it hard to cover their high operational costs.

2.6 CRYPTOCURRENCY PAYMENTS

Cryptocurrencies are becoming more and more recognized amongst the wider population and are slowly stepping into the mainstream. According to research, credit cards remained the online shoppers' preferred payment method worldwide in March 2017 and cryptocurrencies reached 3 %¹⁴.

Preferred payment methods of online shoppers worldwide as of March 2017



This percentage is anticipated to increase, since the last research conducted in July and August 2017 in Germany already showed that 11.4 % of participants are expecting to use cryptocurrencies for conducting payments in the future¹⁵.

One of the main reasons, why the adoption of cryptocurrency payments is slow, is the fact that big online merchants are not implementing this payment solution yet. As of July 2017, Bitcoin was accepted at just three of the top 500 online merchants¹⁶.

2.7 CONCLUSION

Research shows that the online shopping market is growing yearly and that people are already losing a lot of time searching for the right product. The offer is vast and the online shopping ecosystem is very dispersed. The second-hand online market is blooming and will probably grow even faster if certain seller and buyer security measures are implemented.

2.8 MAIN PROBLEMS IDENTIFIED IN THE RESEARCH

Online product research and shopping are time consuming

People spend a lot of time researching online to find the product and the deal that suits their needs, but even the most persistent ones cannot check all the online store offers. Users are never certain, whether they found the best possible deal.

User privacy issues

Users disclose personal data with every store, where they want to place an order. Their every move on the store's website is also being monitored. This means that stores are collecting extensive behavioural data about each user and can connect that data directly to the person.

Registration with every online store is required

Users have to separately register with each online store they want to shop in. Due to this inconvenience, they can be discouraged from placing an order in a new online store. Keeping track of different accounts can be a hassle and therefore consumers are returning only to stores, where they are already registered.

Keeping track of household belongings

Users do not have an overview of what they own and how much their belongings are worth. Every household has many products that still have value, but are never used and people forget about even having them.

Creating second-hand listings for faster sale conversions

When trying to sell used items, users are having problems setting the appropriate price and selecting a second-hand market with the highest probability of finding potential buyers. Usually they list products on some of those markets and forget about the listing, as it rarely converts into a successful sale.

Payments with cryptocurrencies are not possible

With growing wealth held in cryptocurrencies, the demand for conducting payments in those currencies is growing. Very few online stores stepped into this direction, even though all the indicators are showing that in the future cryptocurrencies are going to become mainstream.

Vast number of individual loyalty programs

Big retailers have introduced loyalty programs a long time ago, but those programs are not connected. This means that in order for users to really benefit from a program, they have to keep track of every one of them, which is next to impossible.

Incomplete or inaccurate product descriptions

Most online stores provide their own descriptions. The quality of those descriptions varies from store to store and it is very hard for users to know which one of them is relevant. In most cases, when users are searching for products with a higher price, they have to first visit the manufacturer's website to find the description they can trust.

Lack of a personalized approach

Despite the adoption of new technologies, most online stores are still not embracing the personalized shopping experience approach. In many cases, online stores are displaying inappropriate products to the wrong customers and it is up to the users to browse the store and find the product that best suits their needs.

3 Pilot project -Blockchain City

Every great project needs to start small - on the appropriate testing grounds. We wanted a physical area with a lot of different stores, restaurants, business premises and a lot of people movement. It was very fortunate that we did not need to look far. BTC City lies in our office vicinity in Ljubljana, Slovenia and encompasses more than 10,000 brands, 3,000 companies, 450 stores and 70 bars and restaurants. It annually hosts over 20 million visitors, who can also enjoy a food court, a recreation centre, a waterpark, a theatre, a cineplex, hotels and a casino.

We have successfully cooperated with BTC in the past and when we approached them with the idea, we discovered that we can write our story together-offline and online. The stars aligned perfectly with the name as well, so we are calling it Blockchain city and using it as our laboratory.

BTC is currently operating strictly offline and our first goal is to bring cryptocurrencies and blockchain technologies into the mainstream by creating a unified marketplace, where paying both with fiat and cryptocurrencies will be possible. This will simplify payment and business processes and enable the creation of a central warehouse, from which any item can be shipped. Additionally we are enabling offline retailers to implement our POS solution that will combine with the mobile wallet and operate as a cryptocurrency payment processor. BTC City is already home to multiple blockchain companies and Alto will expand its capabilities to host future blockchain companies and projects with great potential. After successful testing, we will have enough data to transfer all the technologies and concepts from our testing ground to larger cities, where potential is limitless.

3.1 ONLINE PLATFORM

The first phase of the online platform is already developed and is currently operating in test mode. It already supports payments in some cryptocurrencies (BTC, BCH) and more will follow shortly. The platform is curated by the enterprise start-up BTC and is enabling users to purchase products, offered by the offline retailers in the BTC area. Items offered by the retailers are currently limited to so called »Special deals«. Users can also browse through a complete catalogue of products that can be bought in the BTC City area. We will gradually transform the online store platform into a true marketplace of all the retailers that are a part of the BTC City ecosystem. At that point, the retailers will be able to manage their own profiles and item portfolios.

3.2 MOBILE WALLET

With a tailor-made mobile wallet and POS systems, we will also enable offline users to use cryptocurrencies as a payment option in retail stores. As the adoption of POS systems amongst retailers within the BTC City area is growing, it is slowly but surely becoming the first fully covered cryptocurrency shopping centre.

Our mobile wallet possesses all the basic functionalities of mobile wallets:

- Storage of different cryptocurrencies and tokens;
- The ability for users to transfer funds to other wallets;
- The ability for users to use it as a payment option on crypto payment-supported points of sale;
- The ability for users to view the transaction archive.

Beside these functionalities, it also offers users some additional features that will help us gain more traction and collect more detailed and more accurate user data:

- List of stores in the BTC City area;
- Store details (opening hours, exact location, type of store, contact information, etc.);
- Simple navigation to the stores;
- Special discounts for mobile app users;
- Notifications of special deals in the BTC City area.

To create a full service solution for the retailers, our POS systems will help introduce cryptocurrencies to a wider public. These POS systems also accept payments with third party mobile wallet solutions, but their main benefit will be visible when users will pay using our mobile wallet, as those payments are free of transaction fees. Every purchase is also rewarded within our loyalty program. Our POS system is a web-based application and can be run on all modern operating systems on desktop and tablet devices.

3.3 USER PROFILING

User profiling is a key ingredient in developing a strong AI algorithm for relevant search results. This process is growing daily and exponentially. As we will need a lot of user data even before Alto's launch, we used our partnership with BTC d.d. to develop the abovementioned solutions

We will use both solutions to gather data on user/customer behaviour and purchasing habits. The platform itself will be gathering online behavioural data and the mobile wallet will serve for collecting offline data. This data will then be used for the machine learning process to produce more precise user profiling in Alto.

3.4 PILOT PROJECT TIMELINE

Our pilot project is already in motion and we have finished the development of beta versions of the mobile wallet and the POS system. Our first integrations for real-life testing in retail stores in the BTC City area will begin in March 2018. During this testing phase, we will be carefully monitoring the product and making improvements where necessary. This testing phase will end in Q3 2018 and by then we are planning to have at least a 10 % coverage in the area.

In April 2018, we will launch the beta version of the online platform-BTC marketplace. We will be testing the platform through the summer of 2018 and then launch a national marketing campaign in September 2018.

We are striving to have the whole pilot product up and running in the beginning of 2019, with retail stores coverage of at least 30 % in the area.

4 Token Crowdsale

4.1 GENERAL INFORMATION

- Alto token (code: Alto) is a fully ERC-20 compliant Ethereum utility token and will be available in exchange for Ethereum (ETH) contributions.
- Total number of Alto Tokens that will be generated during the Token Generation Event (TGE):
500,000,00018 Alto
- Number of Alto Tokens that will be distributed during the whole Token Crowdsale process:
300,000,000 Alto (60 %)
- Target sum of contributions in the Token Crowdsale process (hard cap): ETH in equivalent of
24,000,000 U.S. dollars
- Minimum sum of contributions (soft cap): ETH in equivalent of 3,000,000 U.S. dollars
- Offered Token exchange ratio: 1 Alto = 0.1 U.S. dollars

Details:

The Know Your Customer (KYC) procedure, where contributors disclose their personal information, is mandatory in both phases before the contribution. Our goal is to collect 16,000,000 U.S. dollars in the presale and an additional 8,000,000 U.S. dollars in the public crowdsale in equivalent Ethereum contributions. The ETH/USD exchange ratio can fluctuate, therefore these hard caps are just approximate values. Additionally, unsold tokens in presale period will be transferred to the public crowdsale phase with a different bonus, meaning that the total sum of collected contributions in ETH (in U.S. dollar equivalent) can deviate from the target sum. Tokens, not distributed in the presale phase, will be transferred to the next phase. Unsold tokens in the crowdsale phase will be transferred to a fund, dedicated to reward plans for Alto platform users.

If the equivalent value of all contributions will not reach the soft cap, all contributions will be returned to the contributors' Ethereum addresses. Excess contributions in ETH, received after the individual phase hard cap is reached, will be bounced or returned to the contributing Ethereum addresses, reduced by the transactional costs (gas).

Contributors should NOT contribute ETH directly from online exchanges, as Alto tokens will be returned directly to those contributing address, which might not be able to accommodate our tokens. All contributors MUST contribute ETH from their private ; All tokens will be distributed after the completion of the last phase and will be locked (non-transferable) for a short validation period. After successful validation of the process, all tokens will be unlocked and become transferable.

All dates are in the format: DD.MM.YYYY

4.2 PHASE I: PUBLIC PRESALE

This phase is dedicated to our close Community members and early contributors that will be able to obtain Alto tokens. We want to ensure that our Alto tokens will be well distributed among long-term supporters and users of our platform. Alto tokens, not distributed in this phase, will be offered in the next phase.

Phase duration: 20.3.2018 12:00:00 UTC - 10.4.2018 11:00:00 UTC or until the hard cap is reached

Phase target sum of contributions: ETH in equivalent of 16,000,000 U.S. dollars

Phase bonus: 15 % of additional Alto Tokens for all accepted contributions

Alto however reserves the right to introduce an invite-only Private Presale contribution period, where the bonus for the duration of the Private Presale contribution period may be higher (at Alto's discretion). The Alto Tokens distributed during the Private Presale contribution period will not exceed 50% of all the available Alto Tokens assigned to the contributors. All the contributors in the Private Presale will be whitelisted.

Target amount of distributed Alto Tokens: 216,000,000 Alto

Minimum contribution: 0.1 ETH

Contributions validation time: 17.4.2018 8:00:00 UTC

An equivalent value of contributions in USD will be calculated at this time according to the average exchange ratio on coinmarketcap.com.

4.3 PHASE II: PUBLIC CROWDSALE

This phase is dedicated to the general public, HNWI and small contributors. Phase duration: 17.4.2018 11:00:00 UTC - 8.5.2018 11:00:00 UTC or until the hard cap is reached
Phase target sum of contributions: ETH in equivalent of 8,000,000 U.S. dollars

This target sum is only an approximation that can vary due to fluctuations in the ETH/USD exchange ratio. It will also be influenced by the fact that a total number of distributed tokens might increase by the amount of unsold tokens from previous phases.

Phase bonuses:

- 8 % of additional tokens for the first 20 mio. Alto tokens
- 6 % of additional tokens for the second 20 mio. Alto tokens
- 4 % of additional tokens for the third 20 mio. Alto tokens
- 2 % of additional tokens for the fourth 20 mio. Alto tokens
- 0 % for remaining tokens

Target amount of distributed Alto tokens: 84,000,000

Alto + unsold tokens from previous phases Minimum contribution: 0.1 ETH

Maximum contribution: The maximum amount of each contribution will be declared based on community requests a minimum of two days prior to the public crowdsale

Contributions validation time: 17.4.2018 8:00:00 UTC

An equivalent value of contributions in USD will be calculated at this time according to the average exchange ratio on coinmarketcap.com.

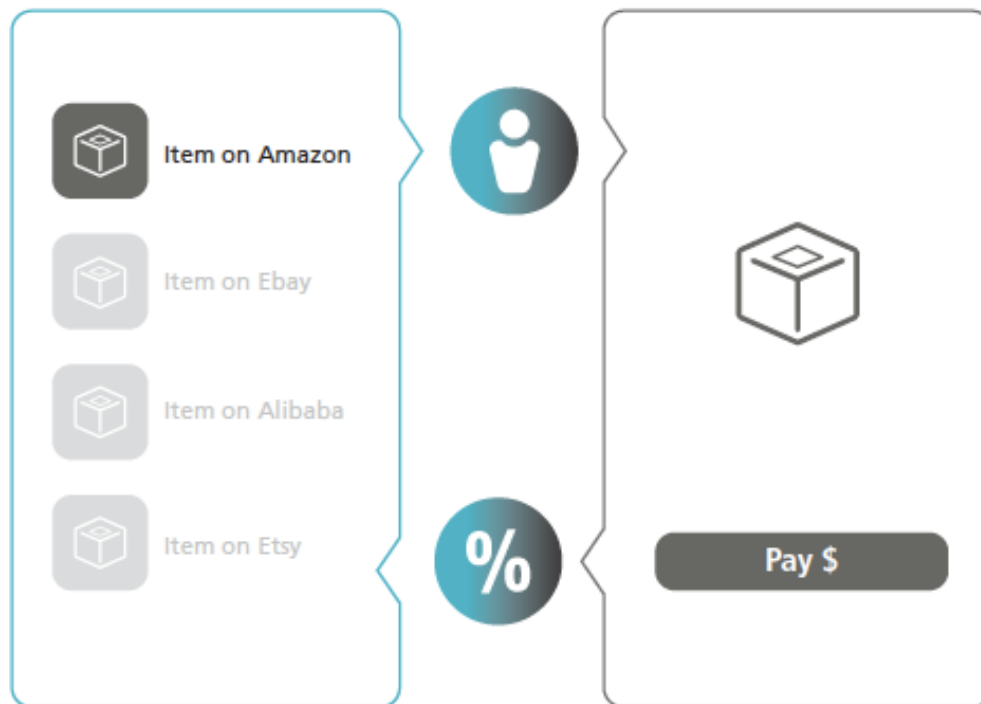
5 Business model and execution plan

5.1 BUSINESS MODEL

At Alto, we will implement several business models in the B2C and C2C segments.

Affiliate Program

Alto's main revenue stream will at first come from an affiliate program that is performance based. While Alto will serve as a window to all the different online stores and marketplaces by merging them under one roof, the affiliation program will track the sales in stores, to which users will be redirected and Alto will receive a commission on those purchases. This module is very popular amongst sellers, since they benefit in terms of marketing, visibility, site visits and consequently higher sales. It enables additional marketing that is free, until the purchase is actually made.



Commission-based

When Alto implements a unified online shopping account, revenues will be made through a commission-based model. Digital contracts will be signed with online stores and marketplaces. For every order, placed through the Alto platform, a commission will be charged to the seller.

Advertising

Alto is entering the online retail market that is anticipated to reach 4.48 trillion in 2021. With a constantly growing user database, Alto's advertising space will lead to excellent ad revenue opportunities.

Alto will offer different advertising modules according to different posting places, sizes, frequencies and durations. This feature will be payable with fiat currencies as well as more popular cryptocurrencies. When advertising will be compensated with Alto tokens, users will receive additional advertising rewards.

Third party Integration

Alto's product and online store database will grow exponentially by incorporating additional APIs, adding manual product entries and using machine learning. Database will thus soon become appealing for other companies. They will be able to access Alto's database via APIs in accordance with monthly agreements set.

5.2 PROJECT DEVELOPMENT

Our team is well aware of the complexity of the project, and therefore a clear project development plan has been set in place. Its execution will have to be very methodical, as we need to prepare a product that will support the scaling of server capacity and the product itself.

Wishlists / Categories

In order to focus on parsing algorithms that will provide us with updated data on products and online stores, we decided to test them in narrower groups called 'wishlists'.

PLAN:

1. Set first wishlists for focused data collection
2. Develop AI / machine learning algorithms for those wishlists
3. Test those algorithms on the market
4. Adapt the algorithms based on real use-case tests
5. Add new wishlist / category
6. Rollout tested wishlists / categories on new markets with new online stores

Data growth and blockchain

Our next step in scaling the item will be including wider sets of categories and moving wishlists into one of the platform features. By doing so, we will expand Alto from a narrow product discovery provider to a provider that will enable discovery of entire product categories. In this phase, Alto will already operate as a channel, where you will be able to discover the best deals according to your needs and will include an option to discover alternative products using AI algorithms. Product purchase will be completed on the seller's website. In the same phase, we will also start introducing the user inventory functionality and start putting DIPs on the blockchain.

Unified online shopping account

Further in the future, Alto will start developing an interface, where users can manage other online store accounts without visiting them.

Decentralized Loyalty program

To create a complete circle, Alto will add a completely decentralized loyalty program, where users will be able to create loyalty programs with their favourite sellers, brands, offline stores, service providers, etc.

5.3 SCALING OF THE PRODUCT

Alto will launch the testing phase for the product in Slovenia, where we will connect to about 25 online stores. During this test phase, we will gather valuable data that will be key for further development of the platform. We will be able to estimate the precision of the discovery results and the possibility of finding a better deal on some of the unlisted online stores.

Based on that data we will have the opportunity to scale in one of two ways - geographical scaling or precision scaling.

Discovery results and precision scaling

Scaling for better discovery results is very straightforward-the more sources (online stores) we have, the better the precision is. This kind of scaling will always be improving, as we will be constantly adding new sources. In addition to that, Alto's machine learning and artificial intelligence will improve with experience gained and thus provide better discovery results.

Geographical scaling

Slovenia will only be a testing ground to optimise Alto for our intended market entry strategy. Our first target for the product launch is the United Kingdom. With taking the results of beta launch testing in Slovenia into account we will improve the product and use the following strategy for penetrating the UK market:

1. Scrape global online stores that deliver to the UK;
2. Scrape additional local online stores;
3. Adapt the product using gathered data;
4. Launch the product;
5. We will continuously keep adding additional online stores.

The same process will be used for further geographic expansion, until Alto is present worldwide.