# Whitepaper

# ETHEAVOUR

FINANCE.TRADE.INVEST

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# Abstract

*Our mission is to connect the cryptocurrency world with conventional financial markets.*

Etheavour is a financing, trading and investing platform. Our mission is to connect the cryptocurrency world with conventional financial markets. We combine the advantages of the blockchain technology with traditional financial products. First, we pioneer cryptocurrency sourced bond financing in regular currencies to small firms that otherwise have limited funding access. Cryptocurrency investors crowd-finance these bonds via our platform. Second, clients can trade via our platform. Initially, traded products are stock index futures and bonds issued through Etheavour. We aim for a trustless solution. We match trades off-chain and settle via smart contracts. This hybrid solution provides clients with an easy access to financial products and allows for fast, economical operations beyond the present standards.

**Keywords:** blockchain, bond, crowd-funding, debt financing, derivatives trading, Ethereum, real asset investing, smart contracts, stock index futures

# 01 | Executive Summary

## 1.1 MISSION STATEMENT & VISION

Cryptocurrency investors face large price fluctuations of their investments and so far have little means to diversify or invest beyond the cryptocurrency world. We aim to change this by offering trading in bonds and stock index futures. The difference to the classical versions of these products is that payments, such as bond interests or settlements of futures, are determined in fiat currency but paid in cryptocurrencies. Hence, investors can purchase assets that are not linked to cryptocurrencies without the need to exchange their cryptocurrencies into fiat currencies.

With stock index futures we introduce a derivative to the cryptoworld for which the underlying is a liquid, publicly traded fiat product, such as the S&P-500 index. Stock index futures traded on our platform are peer-to-peer agreements. In the absence of sufficient peers, our platform steps in. That is, we offer market making to provide a liquid and **easy** to trade synthetic crypto-product.

The bonds traded on our platform are issued via Etheavour. Our targeted issuers are Small and Medium-Sized Enterprises (SMEs) that often have limited access to public debt funding because their issuances are costly relative to their size, see [1], and they cannot afford costly ratings. Academia suggests that the presence of ratings leads to a better access to debt funding, see [2]. The SME's main debt funding is usually limited to loans from its local bank. Banks make their own, internal assessment of the firm's creditworthiness that remains unpublished. We help SMEs to easily open a new channel of debt financing via crowd-funding on the Etheavour platform.

To guide the crowd, we determine a rating for each bond issuance which will be publicly available on our platform. Accessing the public bond markets usually leads to less costly debt funding, see, e.g., [3] and [4]. Therefore we expect crowd-funding via Etheavour to be beneficial for the SME's future access to funding. One reason is that the issued rating and the traded bond price provide additional free information on the firm's creditworthiness that potential creditors would otherwise have to acquire and monitor via costly channels.

We aim for **trustless solution** in the long-run. At no point the platform has unsigned access to the client's funds. We implement our platform using a hybrid solution that combines the blockchain technology with a common client-server model to provide a scalable and fast solution with crucial blockchain benefits. When clients enter a trade, the platform matches the trade off-chain with peers. To provide liquidity to a trader in the absence of sufficient peers, Etheavour takes on the role of a peer and thus acts as a market maker. Settlements occur on the blockchain and thus provide transparency. That is, Etheavour contracts and transactions are locked on smart contracts on the blockchain, they are irreversible and not erasable. Therefore, the legal proof is undisputable, globally.

This technology empowers us to operate **economically:** processes are automated and we can eliminate middlemen. As a consequence, we lower operational risks compared to other providers and we can operate cost-efficiently and fast. The lean processes enable us to provide our clients with easy access to financial products. Benefits are manifold. Bond issuers can expect to raise funds within a fraction of the time they need today. We can offer trading anytime at any day anywhere on the globe. Other than in fiat markets, trading requires no initial deposits and purchasing bonds requires no minimum investment amount. We thus contribute to make financial products more inclusive.

Our approach will support the evolution and global acceptance of the blockchain. We will contribute to establish Etheavour as a pillar of the growing blockchain ecosystem and as the leader of crypto securities market platforms. We aim to be a driving force for the new and developing financial blockchain community helping to create worldwide accessible and transparent financial crypto markets.

## 1.2 THE POTENTIAL OF BLOCKCHAIN

Around 35 years ago, the derivatives market was small and inconspicuous [5]. Since then it has grown into a truly global market with about $483 trillion of notional amount outstanding [6]. Derivatives experienced more innovation than any other class of financial instruments - in regards of products as well as technology. The blockchain has the potential to boost this development further.

On September 2nd, 2014 the Ethereum ICO ended and achieved approximately USD 18 million. In October 2017, the entire cryptocurrency market reflects a market capitalisation of approximately USD 70 billion, whereas Ethereum represents the second largest currency with a market capitalisation of approximately USD 28 billion after Bitcoin. [7] In only 4 years, Ethereum has become the most advanced and feature rich platform based on a peer-to-peer network the world has ever seen.

While the world of finance has become a world of intermediaries, making financial services expensive, complicated and inefficient, Ethereum provides the tool to solve all these problems. Funds can be transferred around the globe in less than a minute without the need of trusted intermediaries. Moreover, the Ethereum platform enables us to execute critical business processes in form of smart contracts, involving some key advantages which are unique to blockchain

> *Funds can be transferred around the globe in less than a minute.*

technology: **trustless solution, transparency and constant availability** to consistent and accurate data.

The virtual currency ecosystem, which is developing and picking up speed, is just the beginning of a new era. Etheavour is part of the community and will be a solid pillar in the growing financial crypto world.

## 1.3 REGULATORY SETUP

### INCORPORATION

Etheavour is a limited company incorporated in Gibraltar and therefore follows all legal requirements. We chose Gibraltar because in January 2018 the country will pass a legal framework in the field of distributed ledger technology (DLT). [8] Hereby, Gibraltar as part of the European Union is one of the very few countries to create a legal basis and certainty for businesses and customers which are commercially or privately engaged in the area of DLT, blockchain technology and cryptocurrency.

### THE PLATFORM - AML/KYC/CTF

Etheavour is aware of the vulnerabilities of its products and services to financial crime risks and **will ensure the implementation of adequate measures to mitigate the risk of money laundering and terrorist financing.** For the clients operating on the crypto securities market platform, a verified account with Etheavour is mandatory and adequate compliance measures will be in place. Therefore, the business will fully comply with the rules regarding anti-money laundering (AML), knowing your customer (KYC) and countering terrorist financing (CTF).

### THE ICO - AML/KYC/CTF

Since the Etheavour utility token is clearly a voucher to consume all different services provided by the crypto securities market platform after the Go-Live, it is not considered as a security. Nevertheless, we will apply fully AML/KYC/CTF for investors exceeding a transaction value of 15,000 EUR. Below that level such a verification is not required. However, if we detect suspicious behavior, we reserve to ask for verification. Etheavour will perform professional data analytics on all transactions and sources to fully comply with the Proceeds of Crime Act and any guidance issued by the Gibraltar Financial Services Commission (GFSC).

### CLIENT'S CRYPTO ASSETS

The required adherence to regulatory principles regarding client assets and money is not applicable for Etheavour, because all transactions will be executed on smart contracts. Hence, Etheavour will not hold any client's assets.

# 02 | The Platform

## 2.1 THE SERVICES

The crypto market securities platform of Etheavour will provide the following services, illustrated in figure 1:

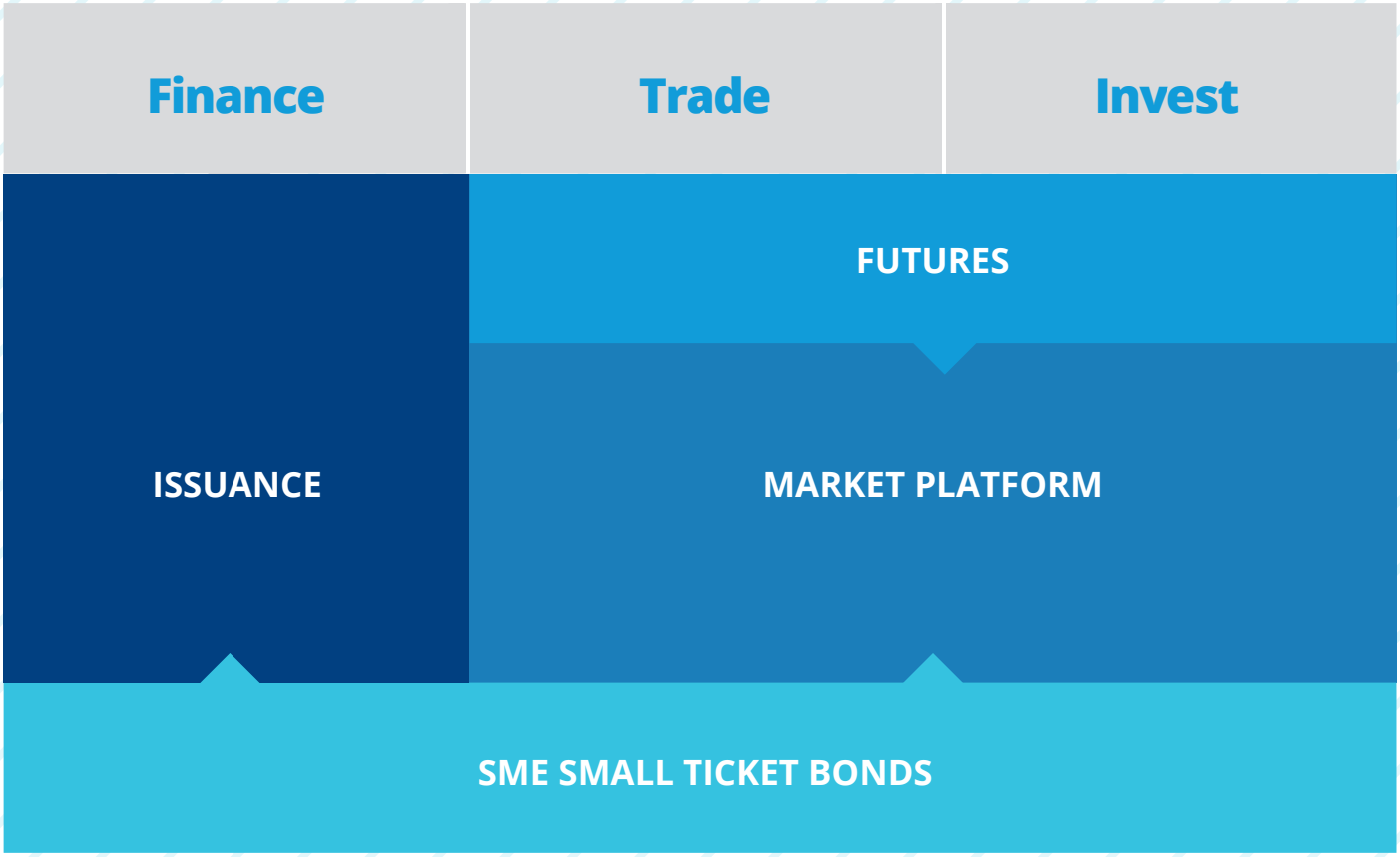


*Figure 1: The Etheavour Services*

## 2.2. IT ARCHITECTURE

Recent startups in the community have one common theme: striving for decentralization. While a purely blockchain based solution is the most desirable goal, it comes with major drawbacks: missing scalability and speed. Therefore, we focus on a hybrid client-server-blockchain architecture for our first version. The server performs tasks, which are too resource consuming or time critical to be executed on the blockchain.

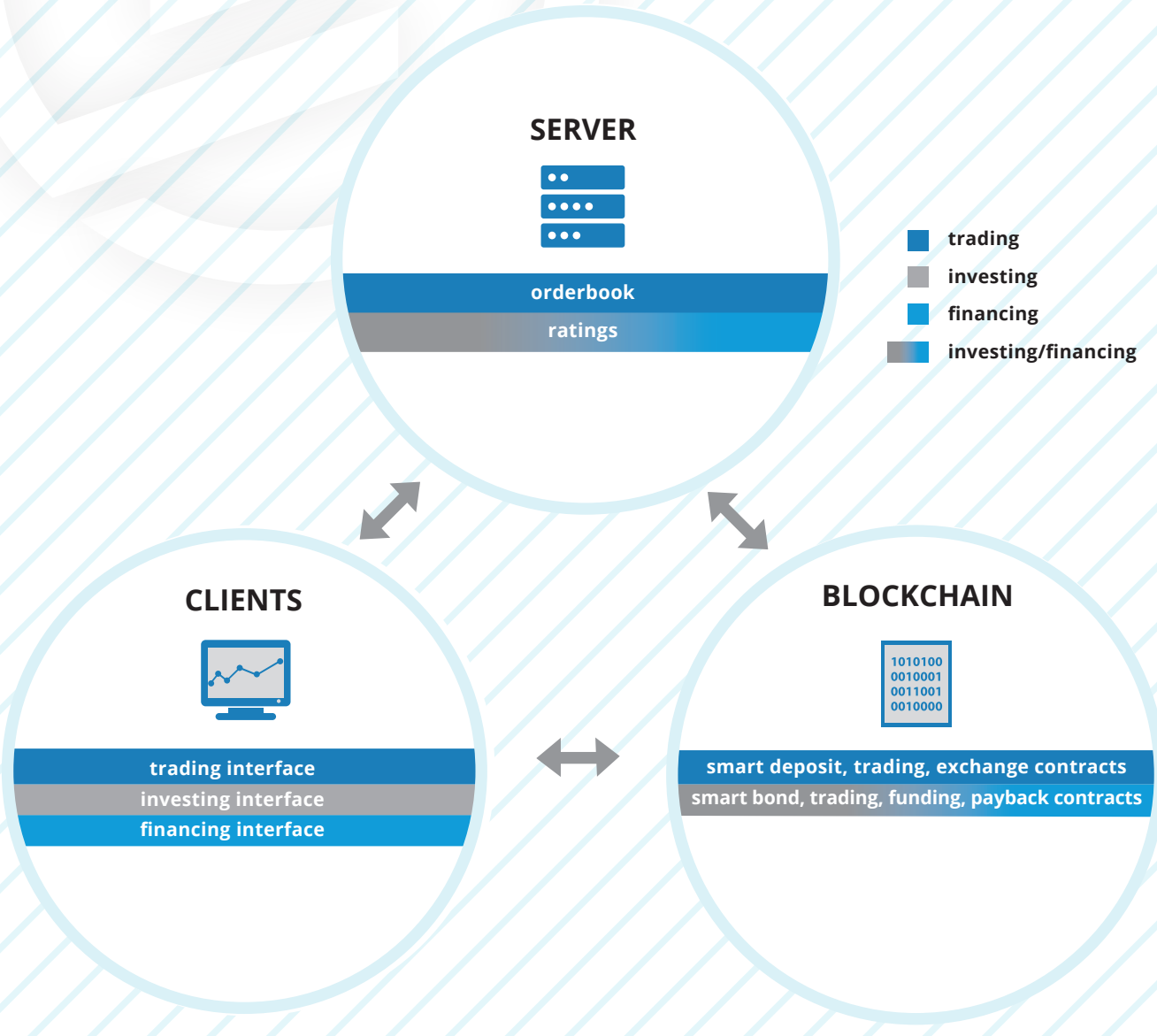


*Figure 2: Hybrid Client - Server - Blockchain Architecture*

In trading, the main challenge is the orderbook. A real-time orderbook on the blockchain is currently impractical, because of the time it takes for transactions to be confirmed and the cost related to order updates. Multiple users could try to take the same order while the transactions of the others are still pending, leading to many failed transactions which ist frustruating and expensive. Furthermore, each order placement and its cancelation would require a costly transaction and be only executed with a significant delay in which the market might change. For those reasons, Etheavour will rely on a conventional noSQL database for the orderbook. Nonetheless, we maintain the following key benefits of the blockchain:

- **Secure funds:** Etheavour will never ask a user to deposit funds on a wallet controlled by the platform. Instead, all funds will be held on a smart deposit contract and only be accessible by the user or those who possess a signed order to initiate a trade. This way, the user's funds cannot be misused in any way.

- **Transparency:** All trades are represented on a smart trading contract, such that the trading process is fully transparent.

- **Quick value transfer:** Ethereum blockchain transactions are much faster than bank transfers or payments through common service providers.

In summary, we're quicker and more reliable than a truly decentral exchange and at the same time more secure and transparent than an ordinary exchange, which does not incorporate smart contracts at all. We combine the best of both worlds. As the Ethereum ecosystem evolves and overcomes its current restrictions, we plan to further decentralize our services.

## 2.3 PRODUCTS

Initially, Etheavour offers two distinct products around which we form the three pillars: finance, trade, and invest. The first product, termed SME Small Ticket Bonds, spans across all three pillars. Small and medium-sized enterprises can issue bonds on Etheavour's platform to receive crowd-financing. Investors have the possibility to subscribe these issuances. Once the bonds have been allocated they can be traded on the secondary market via the Etheavour platform. The second product, synthetic E-Mini S&P-500 futures, forms the cornerstone of the trading pillar. The range of products will be extended as Etheavour matures.

The target group for financing via SME Small Ticket Bonds are small and medium-sized enterprises that typically have limited access to debt financing. Etheavour assigns an independent and comprehensible credit rating to each bond to guide the crowd-funding investors. The bonds offered can differ in terms, such as maturity, interest rates, or interest payment frequency. Nominals are specified in fiat currency. Accordingly, the nominal and interests are paid in Ether at the current exchange rate so that neither investors, nor bond issuers are exposed to exchange rate risks between ETH and fiat currencies.

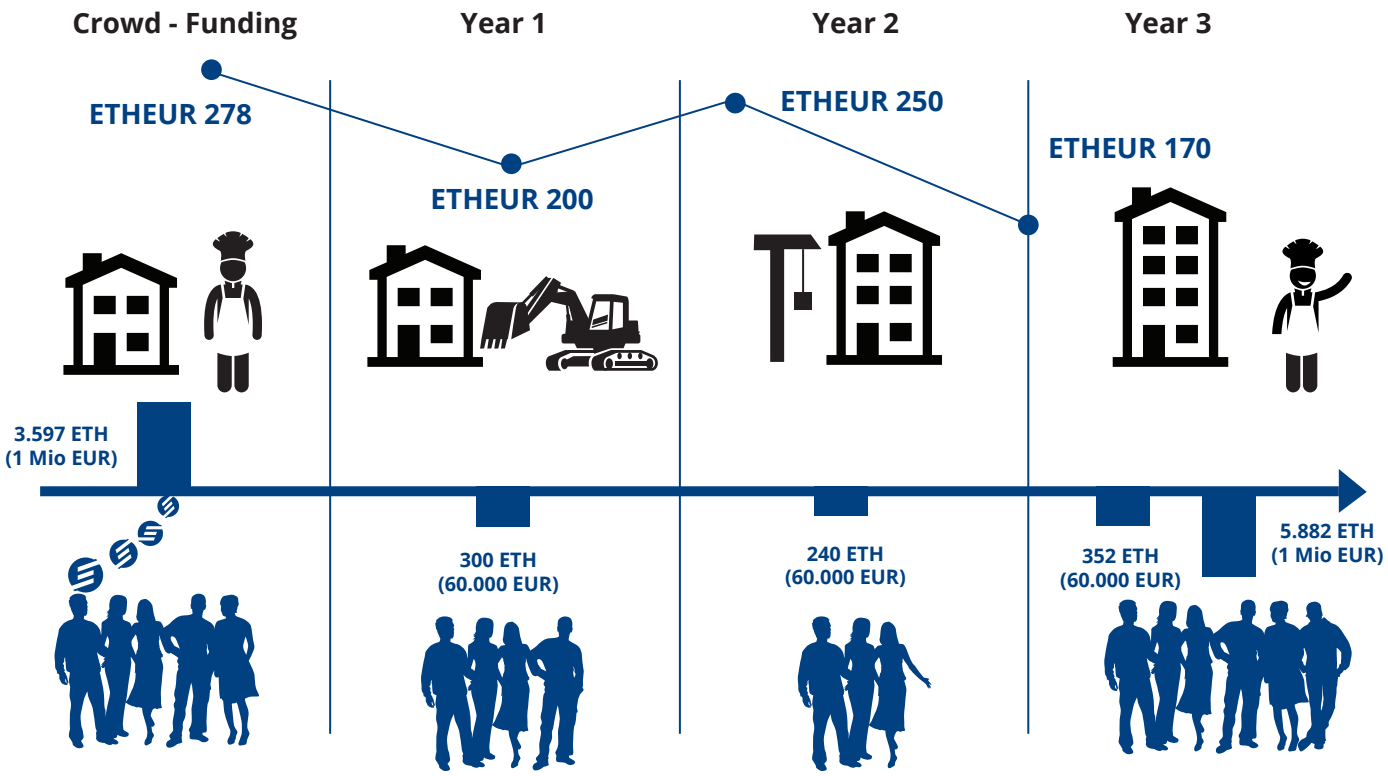


*Figure 3: Example 1 SMI Small TIcked Bonds*

**Example 1:** *One company issues a EUR 1 million fixed rate bond that pays an annualized interest rate of 6% with annual payment frequency and a maturity of three years via Etheavour. Every year, the investors receive EUR 60,000. The EUR 60,000 are converted into ETH at the pre-vailing rate, hence the payment received is in ETH but has a value of EUR 60,000. After three years, the company pays back the nominal of EUR 1 million plus the last coupon payment. Again, this amount is converted into ETH at the prevailing rate. (in figure 3)*

The example shows that the investor's currency exposure results from the fiat currency of the bond, not Ether. During the crowd-funding process investors post Ether that are converted into the required fiat currency when the crowd-funding process has ended. We conclude that investors are exposed to a currency risk during the funding process, but not anymore after the issuance has been completed.

Etheavour also offers trading in synthetic E-Mini S&P-500 futures. E-Minis trade on the Chicago Mercantile Exchange, have a contract size of $50 times the index, and have a specified expiration date that falls on quarters (March, June, September, December). E-Minis are quoted in S&P-500 index points that determine the settlement price. At initiation, the value of the E-Mini future contract is zero. The terminal value in US dollar equals the difference of the future price that was agreed at contract initiation and the settlement price as published by CME. Etheavour mirrors CME S&P-500 E-Mini Futures with two main differences. First, the settlement of Etheavour E-Minis occurs in Ether as opposed to US dollar at the prevailing exchange rate. Second collateral held in the margin account is denominated in ETH.

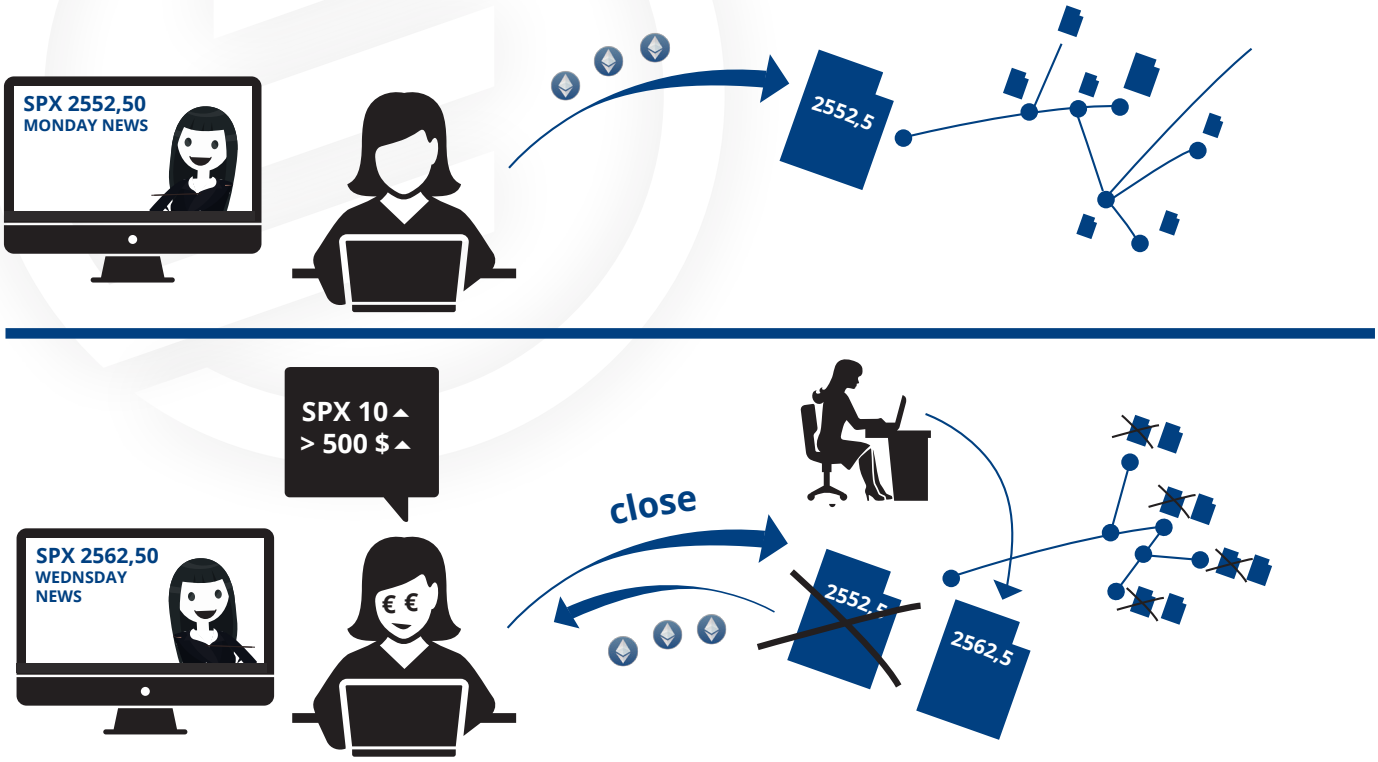


*Figure 4: Example 2 Futures Trading*

**Example 2:** *A trader entered an Etheavour S&P-500 E-Mini contract two days ago. To do so, she posted Ether into the smart contract of the trade that serves as collateral for her counterparty. Since the trade initiation, the settlement price has now increased by 10 index points and thus she has gained $500. Now the trader decides to close out her position. To do so, her position is replaced with another counterparty and the posted collateral is paid back to her wallet. The trader is paid the $500 in Ether according to the current ETH/USD exchange rate from the Ether margin account of her counterparty. (in figure 4)*

The example shows that traders are not exposed to currency risks versus the US dollar when the future prices move. However, margins are held in Ether and therefore the margin account is subject to the risk that the Ether depreciates against the dollar. Therefore, Etheavour has slightly higher margin requirements than brokers and exchanges in the traditional financial markets.

# 2.4 FINANCE & INVEST

## 2.4.1 THE CHALLENGE

Even if the financing and investing sector represents a strong pillar within the global economy, the industry still deals with traditional rules driven by a lack of flexibility. Empowered by emerging technologies that create new opportunites, customers seem to have changed their minds about what they value most. Therefore, the rules of the financial industry have changed. The following three issues illustrate the current situation:

### Market access

Purchasing bonds on conventional markets is usually unavailable to amounts below US dollar 1,000. Additionally, transactions are costly. This causes an entry barrier to small investors and limits the their ability to purchase diversified bond portfolios.

### Trust

The above is often abused by distressed companies preferring to issue a non-rated bond over issuing a bond with a bad rating. The reason is that a non-rated bond can face more favorable conditions than a bond with a bad rating. In turn, this behaviour causes a higher risk for investors in such non-rated entities. From an investor's perspective, the real credit risk he faces is not sufficiently transparent even if all formal and regulatory requirements are fulfilled.

### Speed & Cost

For fund-seekers a typical bond issuance takes up to several months. It is an intense regulatory process involving many different stakeholder such as banks, the exchange, lawyers, regulators, investors and advisors. Apart from the timing issue, the complexity of the process leads to high costs. Smaller companies try to limit these enormous costs by sidestepping a public credit rating since a profound credit risk analysis of the financial instrument is not legally requested. Therefore, the bonds issued by small and medium-sized enterprises are generally not rated, regardless of the issuer's creditworthiness.

From a legal perspective, written contracts contain quite a big risk being disclaimed in jurisdictions where legal certainty is at a low level or non–existent. This decreases the trustworthiness dramatically, especially with regards to financial instruments.

## 2.4.2 THE ETHEAVOUR SOLUTION

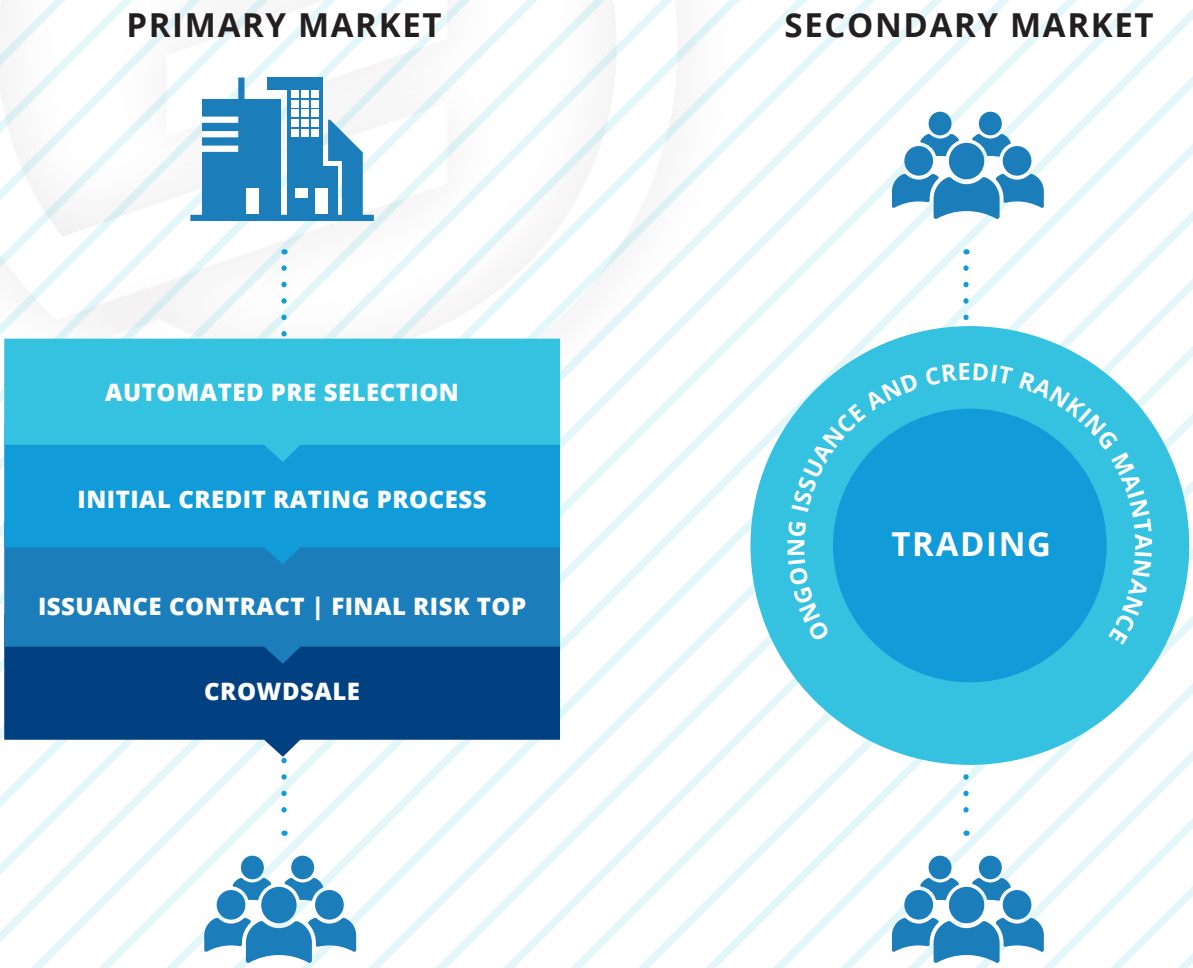


*Figure 5: The Etheavour Markets*

We illustrate the Etheavour solution in figure 5 which we discuss in the following paragraph. As a starting point, Etheavour will offer small- and midsize enterprises access to debt financing in the form of bonds. Etheavour terms these bonds "SME Small Ticket Bonds". Such bonds help these corporates to issue traditional plain vanilla bonds in a currency and a maturity that suit their financing needs. All transactions are calculated based on nominals fixed in fiat currency and payments are made in ETH according to the current exchange rate. Therefore neither the issuer nor the investor face currency risks to the cryptocurrency.

A SME Small Ticket Bond enables small- and midsize companies to finance their business activities. The instrument endows frequent interest payouts as well as the redemption of the nominal. This creates a direct link to the real economy (as opposed to financial markets).

All issued bonds are equipped with a credit rating based on quantitative and qualitative evaluation criteria to ensure an independent and comprehensible view. Quality factors become more relevant with decreasing size of the business: the owner's experience, previous unfavourable solvency assessments or a history of overdue and unpaid bills.The availability of reasonable operating figures which furnish reliable data for financial models, ratios, credit metrics and forecasts increases with size of the business operation. The goal is to produce a quick and comprehensive fact sheet of the investment in scope. Etheavour classifies its bond issuers into different buckets based on

the business size. For smaller bucket investments in most cases only desk checks will be necessary whereas for the top bucket in most cases an onsite visit with a brief due diligence will be relevant. After issuance, SME Small Ticket Bonds can be traded on the secondary market. Given a reasonable liquidity, the traded price will adjust to reflect the market perception of the corporates' credit-worthiness, as we observe in regular, liquid bond markets.

The textbook reasoning is as follows. If investors perceive one bond more risky than a bond from a different issuer but with otherwise similar terms, investors will sell the risky bond and prefer the less risky bond, causing the prices to change. In consequence, the yield to maturity of the risky bond increases compared to the less risky bond. Therefore market prices supported by our assessment of the SMEs credit-worthiness will lessen the uncertainty faced by potential creditors and thus likely help SMEs to find improved financing conditions with local banks.

The SME Small Ticket Bond contracts comply with the ERC20 token standard [8], guaranteeing a user friendly tradability with common interfaces like Parity, Mist, Myetherwallet or MetaMask and easy tracing with blockchain explorers like Etherscan. SME Small ticket bond tokens can only be minted during the crowdsale period up to some maximum amount. Afterwards, there is no possibility to create new tokens. These tokens are offered for sale for a duration of maximum 14 days. The sale is carried out by a smart crowdsale contract, which mints new ticket bond tokens with each investment until the maximum goal has been reached. In case the minimum goal is not exceeded, investors will be able to withdraw their funds.

## Economical – Full acceleration and efficiency through technology

▶ **for fund-seekers:** We anticipate a maximum of five business days between application and bond issuance. Subsequently, investors have two weeks to subscribe an issuance unless it is closed early due to a sell-out. The fund-seeker will receive the whole collected amount directly after the crowdsale. The complete process from initial application to successful funding takes at most three weeks. There are several factors which speed up this process:
The volume of each bond issue will be below the limits of prospectus obligations.

The decision-making process, negotiation of conditions and creating risk profiles are highly efficient due to enhanced digital support. Because of the Ethereum blockchain technology, the transactions itself takes only a few minutes compared to up to several days in the fiat market.
Digital advantages used in risk evaluation and bond issuance as well as the clearly laid out legal aspects of crowdlending keep costs substantially lower compared to other bond issuances on the fiat capital market.

▶ **for investors:** No matter where the user is physically domiciled in the world, using the blockchain technology for executing transactions saves time and costs for the investor.

### Easy – Maximum Usability

▶ **for fund-seekers:** Instead of intense negotiations with possible financing banks, Etheavour requires just an application, based on a standardized form consisting of all relevant financing parameters.

▶ **for investors:** The platform offers investors a simplified way orders are placed, executed, and settled. Standardized and comparable investment opportunities improve the platform's usability for investors faces by using the platform.

### Transparent – Approaching a trustless solution

▶ **for fund-seekers:** Every corporate that accomplishes the successful issuance of a SME Small Ticket Bond enjoys the advantages of a public rating assigned by Etheavour's credit expert team.

▶ **for investors:** The investor of this SME Small Ticket Bond can count on the credit quality based on transparent and regularly updated risk profiles risk profiles. They contain important information for investment risk assesment.

Since all contracts and transactions including the payback are locked on smart contracts within the Ethereum blockchain, they are irreversible and not erasable, therefore legal proof is indisputable.

## 2.4.3 FUTURE EVOLUTION

The investment in SME Small Ticket Bonds can be extended by offering Exchange Traded Funds (ETF) that track the bonds covering different rating classes, regions, or sectors. Furthermore, we envision that other market participants could build their own flavors of ETFs based on these bonds.

After establishing a fundamental and liquid bond market focused on a sound creditworthiness within Etheavour's crypto securities market platform, we will consider the issuance of further investment products. This product will target emerging corporates that expect a hazardous expansion, an existence-threatening situation or an expensive succession. The issuance of so called "Opportunity Certificates" allows companies in such situations to get the required funding in a silent way (anonymously for the public), to maintain credibility to customers and suppliers, to get a free issuance (costs occur just in case of a successful subscription and will be deducted automatically), to keep the full control of the company, to participate as an additional investor rather than losing all future benefits and to receive a call option to buy back all certificates at any time to terminate the obligations.

# 2.5 TRADING

## 2.5.1 THE CHALLENGE

Today trading in cryptocurrencies comes with a high volatility and investment possibilities in assets outside the cryptocurrency world remain scarce. Some start-ups have announced to offer diversification to investors within the cryptocurrency market. Diversification beyond the world of cryptocurrencies proves more challenging. Two notable exceptions are Brickblock [10] who announced investments in ETF and other funds that are registered on the blockchain and managed by regular fund managers, and Digix [11] who are planning to offer gold investments via cryptocurrencies. Both offer investments in the spot markets, that is, one good is exchanged today for another good. In contrast to spot markets, in contingent claim markets one good is exchanged for another good in the future, depending on the future state of the world, such as options and futures. Contingent claim markets are still in an early stage in the world of cryptocurrency trading platforms. One exception is Leverj [12] who announced to offer derivatives in cryptocurrencies - the investments offered remain however in the crypto-world. These start-ups are still in an very early stage. Some have already managed to present an alpha version. While the cryptocurrency world suffers from the absence of trading possibilities, conventional markets require trust and suffer from antiquated and costly processes

## 2.5.2 THE ETHEAVOUR SOLUTION

Etheavour adds new products to the cryptocurrency world by offering investments in products tracking fiat instruments. Hence clients can reduce their exposure to the high volatility of the cryptocurrencies while trading with cryptocurrencies.

Similar to an online broker in fiat markets, users can trade financial products on the Etheavour platform. Clients entrust the broker with their funds. However, we aim for trustless solution. The platform has at no time control over the client's funds. Funds are deposited into a smart deposit contract and are only withdrawable by the client himself and only transferable to a smart trading contract with the order parameters signed for by the client.

> *We want to make it easy for our clients to trade.*

We want to make it easy for our clients to trade. We aim to prevent that trades cannot be executed because of missing peers.Therefore our platform will act as a market maker and take the role of the missing peer during times of low demand. When users will generate a sufficient amount of liquidity, they will be able to trade anytime any day.

Trades are matched off-chain and settled on the blockchain in a smart contract. This makes trading with Etheavour, lightning fast compared to the usual settlement times in fiat markets, economical because the process is digitalised and less parties are involved. The process is safer because settlement risk and operational risks in the settlement process are vastly reduced through the use of blockchain technology.

In the following sections we detail the trade initiations. We first address future markets in which E-Minis are traded and then the spot markets in which trading in SME Small Ticket Bonds takes place.

## ORDERS IN ETHEAVOUR FUTURE MARKETS

We offer two types of orders: Market Orders and Limit Orders, similar to conventional exchanges. By sending a market order, the trader indicates that he wants to buy a specified quantity at the best price. On the other hand, Limit Orders indicate that the trader wants to buy or sell a specified quantity. The price offered in Limit Orders usually differs from the current market price so that no immediate trade takes place. However, limit orders provide liquidity to the market because a market order can be immediately executed when limit orders are present. We operate with an open limit order book as opposed to a dark pool.

On order creation, the trader decides on his order type and specification. Before submission, the platform requires the trader to deposit enough funds in the smart deposit contract. It is required as initial margin of his trade. As soon as there are sufficient funds locked on the smart contract, the order is published to the order book. Figure 6 illustrates this process.

**Market orders** are expected to execute immediately. The platform has a matching engine with an algorithm that prioritizes market orders over **limit orders.** It applies a price-time-priority principle. When the order is matched, the platform interacts with the smart contract to settle the trade (Figure 7)

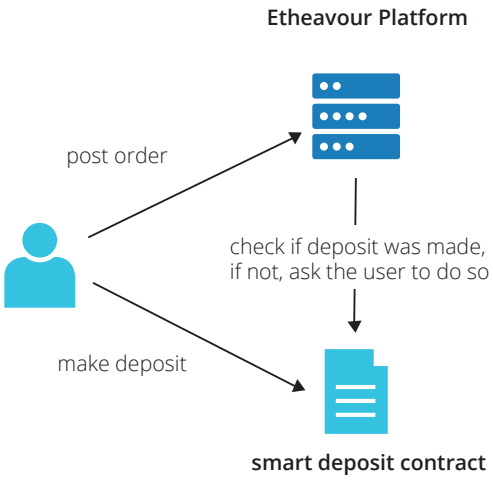


*Figure 6: Making an order*

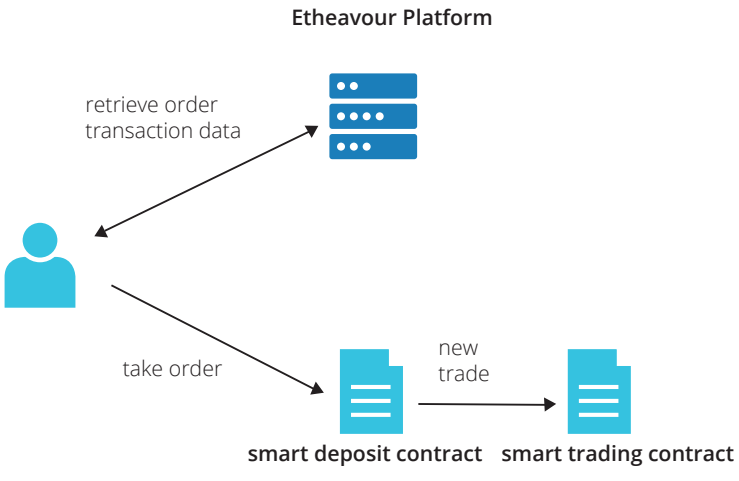


*Figure 7: Taking an order*

## TRADES IN FUTURE MARKETS

One smart contract stores all trades of that product, e.g., there is one smart contract for all trades in the Etheavour E-Mini S&P-500 future. The trades are held in a data structure within the smart contract, holding the trade relevant parameters. The smart contract offers the basic functionalities to manage the trade, such as to increase the margin, and apply a settlement.

Whenever the loss of a trade threatens to reach the maintenance margin, the Etheavour platform sends out a margin call. The party can respond by increasing the margin on the smart contract or choose to ignore the call. In the latter case, if the loss enlarges, the platform will start to close-out the position as soon as a certain minimal margin level is reached to protect the client on the other side of the trade.

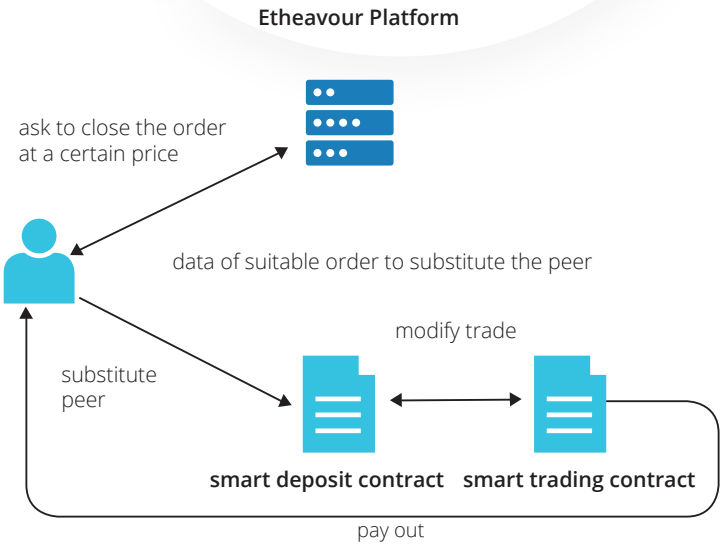


*Figure 8: Substitute one party of the trade*

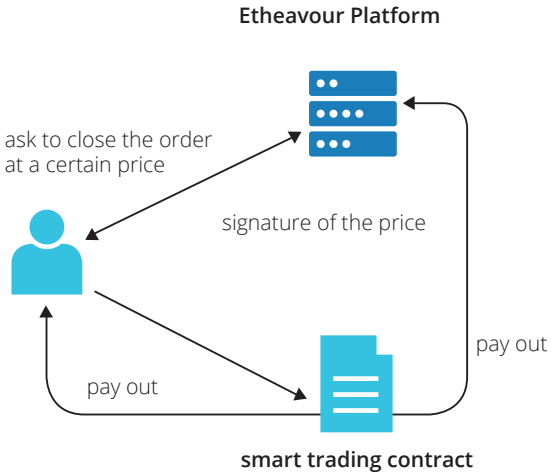


*Figure 9: Settle a trade with Etheavour as second peer*

When a trader submits a request to close his position, the platform replaces the position via smart contract with other peers that fill the position. (Figure 8) The contract verifies the data, calculates gain or loss and pays out the corresponding amount to the trader. The closing order can also be filled via Etheavour as a peer. Hence, Etheavour acts as a market maker in this case which we detail in the next paragraph. In case the server already acts as a second peer, the trade is settled immediately. (Figure 9)

Trade settlements are initiated from the Etheavour servers. However, we design the smart contracts so that the trades can also be settled via smart contract only. This is to ensure no funds are locked forever in the smart contract even if the Etheavour servers were out of business.

### Market Making in Future Markets

Etheavour acts as a market maker by posting limit orders to offer liquidity to clients. Etheavour has no need or desire to hold any inventory, so Etheavour will accept the client's position in anticipation of a subsequent matching position. From the moment we accept one side of the trade, we are exposed to a risk that the price moves against us, until a matching order is found. Therefore, the spreads and volumes offered depend on the trading activity.

The primary goal is to match the client position with a second peer-to-peer client. However, if the market activity is low, Etheavour resorts to hedging the client position via fiat market and sets the spreads and volumes derived from the fiat market quotes and fees.

## THE SPOT MARKET

The trading process in the spot market where SME Small ticket bonds are traded is similar to the one described above, but with some major differences: instead of long and short positions with posted margin, we have a classical spot trade in which one good is exchanged for another, in our case the token (representing the SME Small Ticket Bond) is exchanged against Ether. Consequently, there is no margin necessary. The user has to transfer the whole value of the order to the smart exchange contract where it will be held securely until another party chooses to enter the trade.

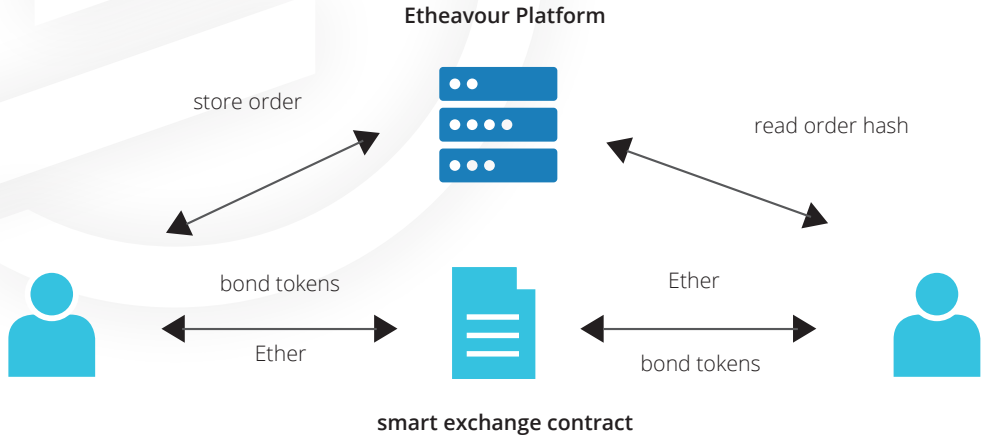


*Figure 10: Exchange on the secondary market*

Figure 10 pictures the trade between two counterparties trading in SME Small Ticket Bonds. The seller submits the amount and price in Ether she wants to offer to the platform and transfers her tokens along with the price to the smart exchange contract. The buyer scans the open orders on the platform and decides to buy some tokens for the offered price. As soon as he sends the corresponding amount of Ether to the smart contract along with the hash of the seller's order, the remaining amount of tokens is updated and the buyer receives the SME tokens in return. Simultaneously, Ethers are forwarded to the seller's wallet.

In theory, this process also works without the platform. The user can read all relevant data from the blockchain and construct the transaction manually. However, using the platform is much more convenient, as the platform lists available trades, helps finding matching orders and prepares the transaction, so the user only needs to sign.

### 2.5.3 FUTURE EVOLUTION

Etheavour will work on developing other interesting financial trading products which carry as little exchange rate risk for our customers as possible. Therefore we are also considering to create Quanto futures / derivatives. As the platform grows, we will gradually add more products and add more room for order customization. We consider letting the user create and trade custom indexes derived from available stock prices on the peer to peer market. Additionally, the secondary market might be extended with SME Opportunity Certificates introduced earlier in this document.
On the technical side, we want to offer an API and tools for traders. In the background, we are investigating new concepts such as state channels, allowing further decentralization and minimizing the number of transaction needed. This would result in even lower costs, better scalability and more independence from Etheavour servers.

## 2.6 BUSINESS MODEL

All chargeable services provided by the crypto securities market platform Etheavour will be charged in ETV Token. This represents the purpose of the ETV token.

The crypto securities market platform Etheavour offers the following services listed in table 11:

| | Finance | Trade | Invest |
|---|---|---|---|
| • Issuance application | ✓ | | |
| • Successful issuance | ETV | | |
| • Investing on the primary market | | | ✓ |
| • Brokerage for trades | | ETV | |
| • All information including prices, trades and credit rating | ✓ | ✓ | ✓ |
| • Maintenance for issued bonds | | ETV | |
| • Account opening and verification | ✓ | ✓ | ✓ |

ETV in ETV ✓ free

*Table 11: Business Model*

Performing funding, trading, and investing requires an account including personal verification at Etheavour. Once the account is approved, the user needs to credit the account by sending ETV token to the smart deposit contract. Enabled by the Approve-And-Call-Method associated with the token contract the withdrawal of the required token is executed automatically.

Today balance sheet and performance data used to assign ratings is unusual for SMEs. With a growing amount of bond issues via our platform, we will accumulate data of this type during our rating process. We will process and analyse this data and allow market participants all over the world to access our analysis and the data. The company ratings will remain free of charge.

## 2.7 MARKETING

We believe that cryptocurrency and the blockchain technology are leaving the niche and entering the crowd. Due to the hype around cryptocurrency and the large amount of ICOs the past months, we believe it is important now, more than ever, to focus on strong product USPs and actively approach prospective clients. Etheavours marketing strategy reaches out to multiple target audiences and aims to educate, gain credibility and endeavour those seeking to trade invest and finance using cryptocurrencies. We do not want to focus our marketing activities exclusively on the crypto community. We want to promote the idea to all those facing the challenges of financing, trading and investing in the fiat world. For cryptocurrency holders, we want to provide a FinTech platform as a utility for their cryptocurrency - **Beating the fiat world in terms of speed, usability and transparency.**

### Marketing Strategy

Communicating value and gaining trust within potential enthusiasts and users is a key priority. We aim to achieve this through a three pillar strategy. Since the target groups of all three Etheavour purposes differ in their main interest to use Etheavour, all three pillars will be strategized to meet the different needs. The goal is to raise awareness, bring people on the Etheavour platform and cross-sell.

We believe our product is unique and perfectly suited to meet the needs of modern financial clientele.
Users sharing our vision will be rewarded for spreading the word. There will be bounties in ETV for communication with the crypto community in relevant social networks, translating whitepaper and website to multiple languages and reports of security issues related to our ICO. After the Go-Live of Etheavour, our loyalty program will assure that referrals are awarded for all leads resulting to conversions on Etheavour. This multiplier effect is, especially in the early stage of the platform, important in order to achieve a faster growth, gain trust and build a loyal user-base.

After a successful ICO, we will continue our bounty program. While keeping up with acknowledging promotional work, we will shift our focus to rewarding those who contribute to improving our platform, e.g., by reporting bugs or usability problems.

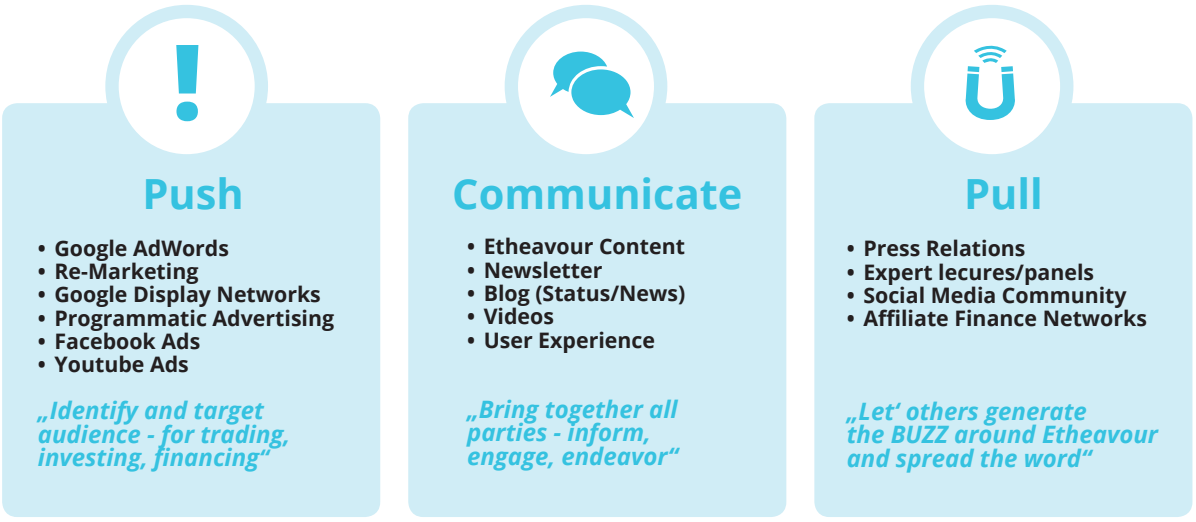


*Figure 12: Marketing Strategy*

# 03 | Road Map

**March - November 2017**

- Product and technology specification
- Team Building
- Technical feasibility
- Legal feasibility
- Regulatory ICO measures
- Business Plan
- Whitepaper
- Incorporation
- Website
- Community Work
- Marketing
- Trading Prototype

**December 2017**

- **ICO Crowdsale**

**January - July 2018**

- Team Expansion
- Licensing procedures
- Full technical implementation of the securities market platform
- Roadmap extension with new products and services
- Marketing

**August - September 2018**

- Testing and further development
- Creation of first bond issuance batch (50 issuers)
- Signing Up of 1.000 platform users
- Closing licensing procedures
- Marketing

**October 2018**

- **Go Live of ETHEAVOUR**

The roadmap depicted above is based on the assumption that the hard cap is reached during the ICO. In case less funds are accumulated, it might take longer to reach the milestones. The more funds are raised, the faster we can expand the platform with additional products and services as mentioned in the sections about future evolution. Aside from that, we will assign more capital to marketing purposes and extend the market making functionality.

# 04 | Token and ICO

## ETV TOKEN

The Etheavour tokens, or short ETVs, represent utility tokens that will be used to pay for services provided by the crypto market securities platform. Therefore, the possession of ETVs will neither grant voting rights nor entitlements to shares of the profit. Services fees per transaction are determined as a percentage of the traded volume in the underlying currency, and are charged in ETV. As a consequence, the price of the ETV should represent the value of the platform in the future.
Tokens are reusable and can be bought on the platform or any exchange listing ETV. To guarantee optimum tradability on as many exchanges as possible, the respective smart contract complies with the ERC20 token standard.

## INITIAL COIN OFFERING

ETVs will be issued only once during the initial coin offering (ICO). During the ICO, Etheavour aims to collect at least EUR 5,000,000. The equivalent amount in Ether will be set as minimum goal on the crowdsale contract. If this amount is not met within 30 days, investors will be able to withdraw their funds. In case the hard cap is reached before 30 days have passed the crowdsale will end instantly. To reward early investors, token purchases will receive a bonus of up to 10% until the soft cap is exceeded. All relevant parameters are listed in the table 13.

## TOKEN DISTRIBUTION

In total 70% of the token supply will be distributed during the ICO. From the remaining 30%, 15% are retained for the team and locked for the duration of one year. Further 12% are reserved to ensure liquidity and serve as risk capital to boost the peer-to-peer market in the early days. 3% will be used for bounty programs before and after the ICO, as summarized in figure 14.

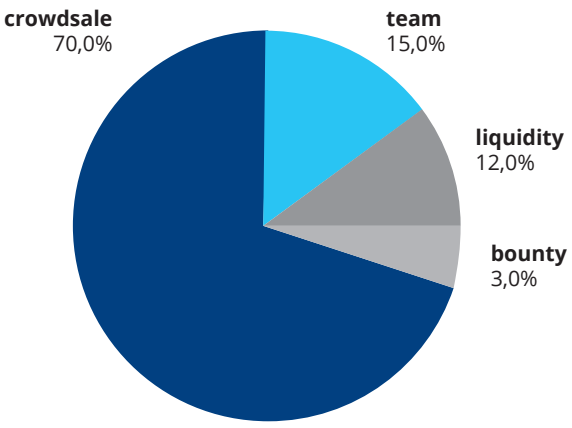


*Figure 14: Overview Token Distribution*

| | |
|---|---|
| **start date** | 01.12.2017 |
| **duration** | 30 days (unless the hard cap is reached earlier) |
| **bonus model** | The investment until the softcap receives a token bonus up to 10% |
| **minimum goal** | ETH value of EUR 5.0 Mio. |
| **soft cap** | ETH value to be announced |
| **hard cap** | ETH value of EUR 75.0 Mio |
| **total supply** | 800,000,000 ETV |

*Table 13: ICO Parameters*

# 05 | Team

## THE CORE TEAM

Ervedo Raiss (Co-Founder)
**Head of Trading & Products**

He studied in Rome and Paris before he concluded his higher education with a MBA from the Thunderbird Global School of Management in Phoenix, Az. He has 25 years of experience in international financial markets. Ervedo worked 15 years in the investment banking division of a major German bank where headed several specialized proprietary trading departments. He is a financial advisor to private companies and UHNWIs.

Stefan Höller (Co-Founder)
**Head of IT Operations**

Stefan started working in web development parallel to his studies of "applied informatics" at the Paris Lodron University of Salzburg, counting 14 years of experience in this sector. While being experienced with Solidity and smart contract development, he prefers to design application architecture and manage the interaction with the blockchain. Currently he is developing the Edgeless Casino amongst others.

Julia Altenried (Co-Founder)
**Head of Blockchain Technology**

During her master studies of "applied informatics" at the Paris Lodron University of Salzburg as well as the Politechnical University of Madrid, Julia focused on IT security, which formed the foundation of her further specialization on blockchain technology in professional life. This year, she wrote the smart contracts for two successful ICOs (Edgeless and Monetha) and is currently in charge of the smart contract development of the Edgeless casino amongst others.

Thomas Pichler (Co-Founder)
**Head of Finance, Legal & Compliance**

Thomas is a Swiss Certified Public Accountant specialized in financial services focused on the banking industry. He holds a Magister diploma degree in Controlling & Finance from the Salzburg University of Applied Sciences in Austria. He has gathered over 14 years of credit risk experience working for different international enterprises. He worked in managerial positions providing audit and advisory services to financial institutions within PwC Zurich (Switzerland), PwC Sydney (Australia) and Deloitte Vienna (Austria). He has published on credit risk, international accounting and controlling and is lecturer at several different educational institutions.

Andreas Wenth
**Head of Digital Marketing & Design**

Andreas looks back at over 20 years of experience in web and online marketing. Andreas studied at Danube University, is NLP Master and wrote a book about "mobile learning". He is the CEO and owner of Contemas, an innovative online marketing agency which develops digital solutions for various government projects as well as renowned Austrian companies. Apart of owning his own business, he is a lecturer at the University of Applied Science of the Austrian Chamber of Commerce. His focus lies on digital change and new business opportunities. He is passionate about the blockchain technology and the possibilities it opens to the world of digital advertising.

B.
**Head of Risk Modelling**

B. has over 10 years of experience in banking, where he held positions in Asset-Liability Management/Treasury for a Swiss commercial bank and Risk Methodology for one of Switzerland's big banks. Prior to working for banks, B. worked as a C++ programmer and developed algorithms for a company that specialized in CAD applications. Most recently, he is heading a team of specialized quantitative risk analysts in New York. B. holds a master of science in Computer Science from ETH Zurich, where he specialized in statistical machine learning. He holds a PhD from the University of Zurich. In his PhD, B. focused on default probability modeling and credit pricing.

# ADVISORS

Manuel Bolsinger
**Advisor IT Architecture**

Manuel completed his studies in "Business Mathematics" at the University of Augsburg and afterwards in "Finance & Information Management" at the Technical University of Munich. He holds a PhD in "Business & Information Systems Engineering". During his PhD, he focused on value-based Business Process Management, while working as an IT-consultant in finance departments as well as in IT. Currently, he is an IT architect in a global company, taking care of the efficient use of innovative technologies. His big asset is the knowledge of both worlds - he can take on the IT-view in the finance world and the finance-view in the IT world.

Jean
**Advisor Credit Risk**

Over the last 20 years, Jean held on to several positions in structured finance, corporate lending and credit risk management for austrian and international banks. Amongst those was the largest bank workout case in Austria where he successfully helped to restructure and sell parts of the bank. Jean has earned a Magister Degree in Business Administration from the Vienna University of Economics and Business.

# GLOSSARY

### Synthetic mini futures based on leading financial indices

Synthetic is the term given to financial instruments that are created artificially by simulating other instruments. Usually synthetic financial instruments are created to fulfill demands conventional instruments cannot meet. A mini future is a derivative providing leveraged exposure to the respective front-month underlying future that tracks a leading financial index (e.g. S&P 500).

### SME Small Ticket Bonds

A SME Small Ticket Bond is a debt investment denominated in a cryptocurrency based on the blockchain technology Ethereum issued and publicly traded through the securities market platform Etheavour. The issuer is a small and medium-sized enterprise (SME) that will be enabled by issuing the SME Small Ticket Bond to raise money and finance a variety of projects and activities. As a fixed-income security it is a signed promise to pay a certain amount of money on a certain date under specified conditions.

### Exchange Traded Funds (ETF)

An exchange-traded fund (ETF) is defined as a basket of financial securities. One can buy or sell ETFs through a brokerage firm on a stock exchange. ETFs are offered on virtually all asset classes ranging from traditional investments to alternative assets like commodities or currencies (Source: https://www.fidelity.com/learning-center/investment-products/etf/what-are-etfs). At Etheavour an ETF is a basket of selected SME Small Ticket bonds. The bonds issued through and traded on the Etheavour platform offer higher liquidity, carry lower fees and are publicly traded. The value of the ETF is not the net asset value, but the price established by supply and demand.

An ETF tracks a basket of financial instruments - in case of Etheavour, issued ETFs will represent a basket consisting of selected SME Small Ticket Bonds based on different characteristics. Compared to mutual funds, such ETFs are publicly traded through the securities market platform Etheavour, have typically higher liquidity and lower fees. The value of the ETF is not the net asset value, but the price that represents supply and demand.

### Fiat

The word “fiat” is derived from the Latin word “fieri”. Fiat has the meaning “Let it be, it shall be”.
Fiat money is currency that a government has declared to be legal tender, but it is not backed by a physical commodity. The value of fiat money is derived from the relationship between supply and demand rather than the value of the material that the money is made of. Historically, most currencies were based on physical commodities such as gold or silver, but fiat money is based solely on the faith and credit of the economy. (Source: http://investopedia.com/terms/f/fiatmoney.asp) “Fiat money” is an object without intrinsic value and which is accepted for legal tender. Fiat money is not backed by a physical commodity and has value solely because a government accepts it for payments of taxes and debts. Hence, almost all well-known currencies in the world (e.g. US dollar, European Euro, Japanese Yen or British Pound) are fiat currencies.

### Real economy

The part of the economy that is concerned with actually producing goods and services, as opposed to the part of the economy that is concerned with buying and selling on the financial markets. (Source: lexicon.ft.com/Term?term=real-economy.”)

# REFERENCES


[1] Krishnaswami, Sudha, Paul A. Spindt, and Venkat Subramaniam. "Information asymmetry, monitoring, and the placement structure of corporate debt." Journal of Financial Economics 51, no. 3 (1999): 407-434.

[2] Sufi, Amir. "The real effects of debt certification: Evidence from the introduction of bank loan ratings." The Review of Financial Studies 22, no. 4 (2007): 1659-1691.

[3] Hale, Galina, and João AC Santos. "The decision to first enter the public bond market: The role of firm reputation, funding choices, and bank relationships." Journal of Banking & Finance 32, no. 9 (2008): 1928-1940.

[4] Diamond, Douglas W. "Monitoring and reputation: The choice between bank loans and directly placed debt." Journal of political Economy 99, no. 4 (1991): 689-721.

[5] Deutsche Börse Group. "The Global Derivatives Market - An Introduction" https://www.math.nyu.edu/faculty/avellane/global_derivatives_market.pdf

[6] Bank for international settlements, "OTC derivatives statistics at end-December 2016" http://www.bis.org/publ/otc_hy1705.pdf

[7] https://coinmarketcap.com

[8] http://gibraltarfinance.gi/downloads/20170508-dlt-consultation-published-version.pdf?dc_%3D1494312876

[9] ERC https://github.com/ethereum/EIPs/blob/master/EIPS/eip-20-token-standard.md

[10] https://brickblock.io

[11] https://digix.io

[12] https://leverj.io