# capitalise.

# WHITE PAPER

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The Available Information describes the expected Capitalise's platform and its respective features and functions, as well as the expected CAP token features, which are all subject to changes.

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# ABSTRACT

As crypto gains steam within the mainstream market, more traditional traders are adding crypto assets to their portfolios. This widespread influx is fueling an overlap of investors in both markets — meaning that both markets are affected by the same investor sentiment and both markets experience related fluctuations.

Yet currently, these two markets exist as distinct entities, without any way to bridge the gap between them. On top of that, existing trading technology is overly complicated, lacks advanced functionality, and typically requires manual execution — making trading a time-intensive activity that demands constant attention and advanced technical understanding.

Capitalise is merging these two worlds on one sophisticated, easy-to-use platform, allowing traders to concurrently automate trades from both crypto and traditional markets. The platform is accessible to traders all along the technological spectrum — traders simply assign investment ideas to the platform using natural language, then those instructions will be translated and processed into fully automated investment strategies. With the Capitalise Platform, traders can manage all their trades in one place and maintain complete control over their investments.

Additionally, Capitalise has an eye toward the future, with a host of innovative features on the roadmap. First up is backtest analysis, which will allow users to run a potential strategy using historical data. Plus, the Capitalise Platform will go beyond the backtest — it will also propose ways to optimize each backtested strategy to achieve peak performance.

Next, Capitalise with introduce the Social Arena, a trading network that will allow seasoned traders, known as "Strategy Authors," to publish strategies and earn Capitalise Tokens. Then, new traders can follow those strategies to inform their investment decisions and learn new methods.



# VISION

Empowering traders to take their skills to new heights by giving them the tools they need to plan their trades and stick to their plans.

Technology for most retail traders has fallen far behind where it should be. Even as technology for mass consumption surges forward, trading technology for these individuals has remained sluggish. Modern society is on the brink of self-driving cars, yet we're still manually executing trades. Human decision makers are required for every execution, and human deficiencies often fumble a fool-proof plan. We're prone to overthinking and indecision, leaving even the most perfect trading plan vulnerable to self-sabotage by our own doubt, fear, or greed.

Now, with the rise of cryptocurrency — a market that experiences unprecedented volatility — this rings all the more true. While the high stakes of trading and inconvenient hours have long been stressors for both day traders and long-term investors in traditional markets, trading crypto doubtlessly exacerbates those issues.

#### In nine short years, cryptocurrency has grown from a niche digital asset into a \$300 billion USD<sup>1</sup> market. As this

newly-formed crypto-economy expands into the mainstream, it's becoming increasingly intertwined with traditional markets.

Consequently, cryptocurrencies are suddenly and widely regarded as investable assets, leading to an influx of traditional market investors who purchase crypto to hedge their portfolios. When these longtime investors play both markets, their investor sentiment affects both markets as well<sup>2</sup>. So much so, in fact, that **some capital management firms are even using bitcoin as a "sentiment indicator<sup>3</sup>."** 

The traditional and crypto markets are undeniably interconnected. Yet, despite this fact, there exists no way to bridge the gap. For traditional traders, this means learning a whole new set of rules, trading on the same signals in two different places, and balancing time on two or more platforms.

At Capitalise, our vision is twofold.

First, to bridge the gap between the traditional and crypto markets. **We're creating one platform to connect these two entities, allowing traders from both worlds to incorporate thousands of data points into their trades.** 

From technical indicators to news events — Capitalise is making it easier to act on even more information.

We're creating one platform to connect these two entities, allowing traders from both worlds to incorporate thousands of data points into their trades.

Second, to give traders back control over their time and their investments. We believe that each and every trader should have the technological means to invest in the markets,

1. As of May 9, 2018

2. https://cointelegraph.com/news/so-is-there-a-correlation-between-bitcoin-and-stock-market-yes-but-no

3. https://www.newsbtc.com/2018/03/12/is-bitcoin-a-barometer-for-the-stock-market/

5

and that they should be able to do so without experiencing constant anxiety. With our automated trading platform, they can do just that: **by allowing traders to set up investment strategies**, we're helping **them trade without letting last minute misgivings get in the way of a solid strategy.** 

As we move toward the future of Capitalise, we'll be adding platform features for traders all across the ability spectrum, from wide-eyed newcomers to seasoned experts. **New traders will be able to slowly get their feet wet with the Social Arena**, which will allow them to financially back the investment strategies of more experienced traders, while those experienced traders will further benefit from followers.

Tools geared toward more experienced traders will allow users to backtest and optimize their strategies. They'll be able to use the Capitalise Platform to simulate their strategy using historical data, giving them an idea of how it would have performed. The platform will simultaneously test thousands of alternative strategies, notifying the user if it finds one that might better suit their needs.

At Capitalise, we believe that complex trades shouldn't be complicated. That's why we've engineered a product with all the sophisticated functionality of advanced trading technology built on a platform that's easy enough for anyone to use. Leonardo Da Vinci asserted that "simplicity is the ultimate sophistication." This is the core of our vision, the foundation of our platform, and the quality that sets us apart in a crowded market.

-Shahar Rabin and Amir Shiovich Co-founders, Capitalise

# 1. BACKGROUND

# 1.1 Industry Overview:

# The Traditional Trading Ecosystem

Trading is, and always has been, fueled by information. In the early days of the capital markets, information spread at only a fraction of the rate that it does today. That meant that trading was full-time job everything happened on the trading floor, and anyone who wanted in had to be physically present.

Fast forward to the late 20th century: computers are now in every home, smartphones are in every pocket, and the Internet is available on every one of those devices. The Information Revolution made data instantly available to everyone, and today's hyper-connectivity means they can act immediately. Now, anyone can trade from the comfort of their own office, kitchen, living room, or any other place with Internet access.

In the institutional finance world, algorithmic trading is the industry standard. Institutional traders can program, automate, and execute high volumes of trades at once.

However, though 75 percent of total trading volume is executed by algorithmic trading, only a very small fraction of retail traders have access to this technology.

Currently, retail platforms for algorithmic trading are complicated to use, expensive to access, and/or overly simplistic. Thus, at present, such platforms are available only to institutional players, leaving online and at-home traders to make do with underdeveloped trading tools.



### The Cryptocurrency Ecosystem

While traditional trading has a long and rich history, crypto trading is new and largely uncharted territory.

Cryptocurrency started in 2009, when pseudonymous author of the Bitcoin Whitepaper, Satoshi Nakamoto, mined the first-ever block of bitcoins (known as the genesis block). It was originally intended as an alternative to traditional financial institutions — a "trustless" system that functions free of third-party governance.

Initially, this newly conceived digital currency appealed to a niche group of technophiles who could mine hundreds of bitcoins with only a personal computer. By 2010, the first-ever real-world bitcoin transaction valued each coin at \$0.0025 USD.

Now, nine short years since the birth of Bitcoin, a slew of different cryptocurrencies have become a widespread phenomenon. Rarely a day goes by that cryptocurrency doesn't make headlines in mainstream media outlets. People worldwide are participating in this digital economy: according to a study by CryptoNinjas.com, 7 percent of people in the US, UK, Germany, Brazil, South Korea, Japan, China, and India own cryptocurrency<sup>4</sup>. Considering that trading volumes of these various virtual coins are significantly higher than the corresponding rate of network transactions, it's estimated that more than half (54 percent) of Coinbase users are buying bitcoins "strictly as an investment<sup>5</sup>."

While Bitcoin is currently dominating the cryptocurrency market in terms of price and market cap (\$140 billion USD), it has a number of promising challengers. Together, ether, litecoin, monero, NEO, and other digital coins collectively contribute to a total cryptocurrency market cap that exceeds 157 billion USD<sup>6</sup>.

Between traditional investors' increased interest in cryptocurrency and recent regulatory signals from the SEC, the crypto market has grown exponentially. That growth can be seen not only among crypto-enthusiasts, but also among traditional investors from all corners of the finance world.

Cryptocurrency markets are beginning to resemble traditional investment markets, where increasingly complex trades and derivatives are introduced at rapidly rising rates. In May 2017, day trading across all forms of cryptocurrency bolted past \$1 billion USD per day, only to quadruple that sum two weeks later. For a while, that volume continued to follow this skyward growth trajectory. By December 2017, May's 2017's record-breaking numbers looked like mere pocket change. Though so far, 2018 has seen a slowing of this crypto-craze, it seems inevitable that crypto is positioned to play a pivotal role in the global economy.

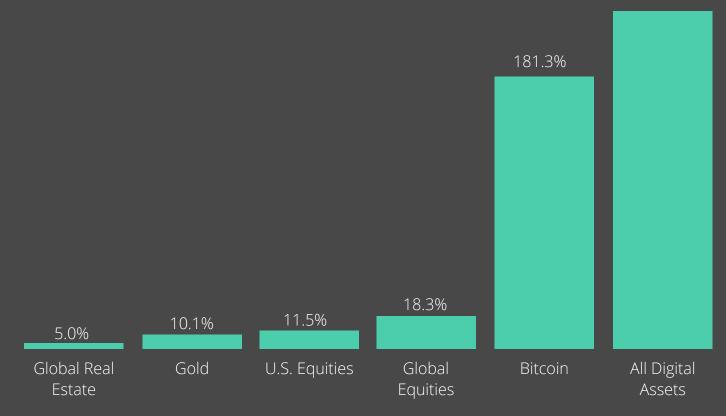
<sup>4.</sup> www.jbs.cam.ac.uk/fileadmin/user\_upload/research/centres/alternative-finance/downloads/2017-global-cryptocurre ncy-benchmarking-study.pdf

<sup>5.</sup> https://ark-invest.com/research/bitcoin-investable-asset

<sup>6.</sup> https://coinmarketcap.com/charts/, December 2017

#### 2017 YTD RETURNS

#### 448.0%



#### All Markets Are Connected

While crypto may have been built to subvert the traditional economic structure, the two are becoming increasingly intertwined. As crypto gains steam within the mainstream market, more traditional traders are adding crypto assets to their portfolios.

With such a large overlap in investors, the same investor sentiment affects both markets, often causing them to experience related fluctuations.

Plus, both markets ebb and flow with world events. That means that signals affecting traditional trading can also ripple throughout the crypto world and vice versa. Ultimately, all markets sit on the same foundation — the overall economic climate.

Additionally, the recent introduction of security tokens and security token offerings (STOs) further tightens the relationship between traditional and crypto markets. This new facet of the crypto space is intended to clean up the industry by offering coins based on something tangible — assets, profits, or revenue. In fact, they're more or less a high-tech version of company shares built on blockchain technology.<sup>9</sup>

Thus, it's important to bridge the gap separating these two markets. Currently, they exist as disparate entities despite their overwhelming interconnectedness.

<sup>7.</sup> www.news.bitcoin.com/markets-update-cryptocurrency-daily-volumes-surpass-1-billion/

<sup>8.</sup> www.cointelegraph.com/news/cryptocurrency-trading-volume-hits-43-bln-nears-stock-exchange-volume

<sup>9.</sup> https://bitrazzi.com/security-token-offerings-sto-the-new-way-to-raise-funds-with-crypto/

### 1.2 The Problems:

#### Problem 1: It's Easy to Lose Sight of the Plan

# *"Plan your trade, and trade your plan,"* isn't the oft-recited mantra of the trading world for nothing.

After all, the most successful traders start with a plan, then follow it closely. Adherence is everything — even the smallest deviations can steer an investor completely off-course and lead to all-out financial devastation.

If a plan is an investor's key to success, then reliable information is the lock. Intelligent investment requires a careful, early analysis of extensive data in order to prepare a comprehensive trading strategy. Understandably, data curation is no easy feat, and a typical trader might drown in the oceans of information before identifying any useful investment cues.

But cataloging cues is only step one. Any trader who successfully manages to collect cues must experiment, backtest, and aggregate postulated strategies into a clear and actionable set of instructions. Without computer programming knowledge or a team of developers, simply drawing up these directions can drain the investor of time and resources.

At long last, with the data dissected and the plans in place, the traders are able to do what they do best — trade. Right? Well, not so fast. Traders still need to seek out trading cues, which mainly involves waiting by the computer for that highly-sought-after but all-too-fleeting moment of opportunity. This investor's FOMO leads to unhealthy habits in order to minimize time away from the screen — quick runs to the bathroom, meals at the computer, and a phone in-hand at all times. Eventually, this seemingly endless waiting game can cause intense boredom and judgement-clouding impatience, leading even a seasoned trader to deviate from a hard-won trading plan.

### Problem 2: Trading Tech For The Masses Is Underdeveloped

In our modern world, information is constantly coming at us from multiple directions — from opinions shared on social media, to developments on the national stage, to breaking news from the international press. All this data is a vital component of smart trading. Yet, this incredible volume of information is impossible for the human mind to digest, and there currently exist few platforms to make it understandable and actionable.

Not to mention, those platforms that do exist are not all that helpful anyhow. While they were created with the Average Joe in mind, they don't necessarily consider the Average Joe who trades. They were designed to be simple, but came out as overly simplistic — they lack the advanced functionalities that allow traders to customize trading plans. Those that do provide more complex capabilities are difficult to master and take time to understand — time that most traders don't have to spare.

Plus, the retail trading market is crowded with thousands of different platforms offering specific features. So any trader who wants to use a new feature must sign up for and learn an entirely new platform, leading to a disconnected, decentralized automated trading ecosystem.

Thus, for the time being, retail traders are left to use rigorous and time-consuming manual methods, while the advantages of advanced automated trading are still reserved for the institutional players.

#### Problem 3: The Markets Don't Sleep

While crypto's round-the-clock trading hours may seem like a whole new beast, the problem they pose is familiar to any trader who regularly trades traditional markets. Because though any one market may close at 5 pm, they collectively comprise a global, 24/7 trading endeavor. It is, after all, 9:30 am somewhere.

Trading at all hours and at odd hours leaves these ambitious individuals in a state of constant stress. Their minds are always occupied by thoughts of market movements, and their relationships to world events are tethered to their investment portfolios.

Not to mention, traditional stock and forex markets are especially volatile as of late. We've entered a new era of unpredictability, where a tweet can send stock prices tumbling or soaring.<sup>10</sup>

Add a layer of hyper-volatile crypto assets to this already unstable investment environment, and you get a charged, up-and-down, always-on marketplace that makes trading and investing particularly anxiety provoking.

# 2. A HYBRID SYSTEM ON THE HORIZON

Capitalise aims to be that hybrid system; a platform that merges classic with crypto. We want traders of all varieties to be able to benefit from our platform and grow with it. And we want to bridge the technology gap between these two markets — making it not just easy, but enjoyable, to trade both at once.

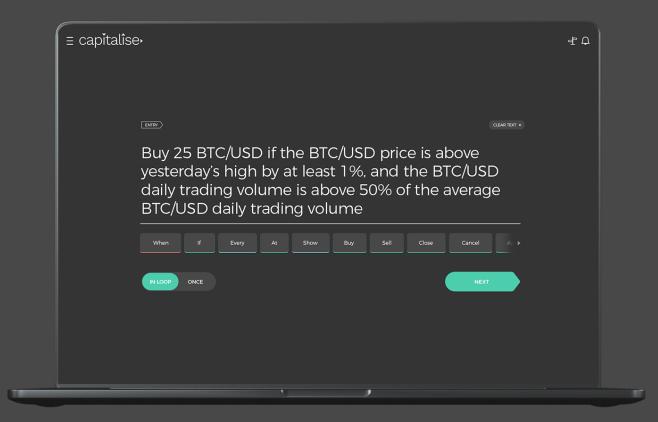
Our platform streamlines all trades. By fully connecting the two, overlapping worlds of crypto trading and traditional trading, the Capitalise Platform makes it possible to create strategies that are based on both.

Plus, our natural language interface makes trading as easy as A-B-C. Traders assign investment ideas to the Capitalise Platform using plain English (and in the future, additional languages), and their instructions are then translated into code and processed as executable investment strategies. The interface understands English in any form, so investors can choose to input everyday language or industry jargon.

Traders can automate all their trading strategies — all they have to do is enter their plan, and the platform will take care of the execution. That means they'll never find themselves struggling to execute a solid plan due to unfounded, last-minute doubts.

### 2.1 Simple Natural Language Interface

The Capitalise Platform bridges the knowledge gap of most non-technical investors. By translating basic verbal commands into complex algo-trading strategies, it streamlines and simplifies the investment process. The platform grants all traders — professional or amateur, technical or non-technical — the ability to automate trading with nothing more complicated than a plain-English sentence.



The Capitalise Platform is made up of three key components:

- 1. Automated Trading
- 2. Backtesting and Optimization
- 3. Social Trading Arena

### 2.2 Automated Trading: Take Control of Your Investments

The Capitalise Platform's natural language-based user interface makes it easy for investors to automate trading scenarios of varying degrees of complexity. For instance, a straightforward scenario may simply program the system to buy an asset at the current market price, while a more elaborate direction could take multiple market (or off-market) conditions into account upon entry and consider a whole different set of conditions upon exit. Whether the scenario requires one command or a dozen, the Capitalise Platform automates the entire process.

Once a trading scenario is submitted, the Capitalise Platform translates the written text into a coded trading algorithm, allowing it to track multiple exchanges and brokerages around the clock. When any buy/sell trigger for a given trading scenario crops up in the market, the Capitalise Platform immediately and automatically executes that order.

The Capitalise Platform integrates with multiple exchanges and brokers, allowing users to instantly manage real-time trades across multiple markets, on one, central platform.

Additionally, the Capitalise Platform can manage a portfolio of investment strategies. Over time, each of those portfolios can take on endless trading positions without any human intervention whatsoever. (See Section 5 - "Architecture".)

### Key Benefits of the Capitalise Platform:

The Capitalise Platform's automated trading system simultaneously frees up investors' time and empowers them with the most powerful trading tools on the market.

#### Never miss an opportunity

Investors can monitor signals on a wide range of market metrics, 24 hours a day. Whether they're following the news from Smith and Crown and Bitcoin Magazine, or tracking updates on token sales, traders on the Capitalise Platform can easily stay up to date with their latest investment strategies.

#### Easy to use

There's only a small learning curve for use of the Capitalise Platform. Traders can easily convert ideas — simple or complex and commands, into operational strategies translated into algorithms, even without familiarity with industry jargon.

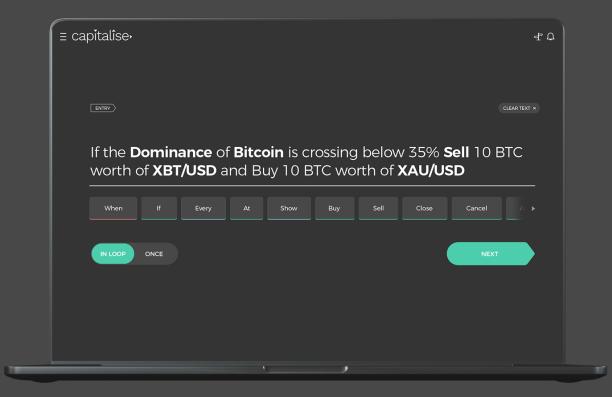
#### Stick to the plan

A solid trading plan is based on pre-configured, carefully thought-out triggers. The Capitalise Platform ensures that investors abide by those triggers and adhere to their game plan, helping them avoid human error and impulsive mis-trades based on fear, uncertainty, or doubt.

#### **Connect your accounts**

Users can integrate their account with multiple exchanges, both for cryptocurrency and traditional assets, creating an all-in-one ecosystem for all trades of from all walks of trading.

# **EXAMPLE SCENARIOS**



ENTRY Buy 10 ETH/BTC if the 50 days moving average is crossing above the 100 days moving average and the RSI is below 80	<b>ENTRY</b> Sell 5 lots of <b>AA stock</b> if <b>AA</b> drops below <b>today's open</b> by 1.75% and the <b>DJI</b> is below the <b>weekly Pivot</b>
ENTRY Sell 1 BTC worth of BTX/USD if the VIX crosses above the weekly high or the S&P is below the bollinger band by 2.25%	ENTRY Sell 10,000 EUR worth of ETH/USD and Buy Tesla for the worth of 5,000 EUR

#### ENTRY

Short 1.5 **BTC worth** of **Ripple/Bitcoin** if **Ripple's Market Cap** crosses below \$10,000,000,000

#### EXIT

Close position at 20% **profit** or if **XRP/BTC** crosses above the **5 days EMA** 

#### ENTRY

Long 1M EUR/USD after the NFP (US) result if the RSI of EUR/USD crosses below 15 and the EUR/GBP MACD Line is above the signal line

#### EXIT

Close position if **loss** is at 0.25% or the **EUR/USD RSI** is above 30

### 2.3 Backtesting and Optimization: Step Up Your Game

One of the most common trader practices is "backtesting," where traders use historical data to determine how a particular trading scenario would have performed. While solutions and tools for backtesting do currently exist, they can only be applied to traditional markets. Not to mention, they're out of reach for the common trader and require some amount of technical know-how.

We want to change all that. As we continue to develop our product according to our roadmap, we're planning to integrate backtesting and optimization tools into the platform in 2019.

When these features go live, any user on the Capitalise Platform will be able to run a detailed backtest analysis at the click of a button. This analysis will show a thorough simulation of that particular scenario played out with historical data, providing users with an exact evaluation of how that scenario would have performed. The Capitalise Platform will then generate a complete statistical breakdown of key metrics for the assigned scenario (including a risk matrix), allowing the user to assess any potential trading strategy.

But as we develop the Capitalise Platform, it will go beyond the backtest — it will also optimize each backtested strategy to achieve peak performance. While running a backtest, the platform will automatically take into account multiple variations of the original investment scenario. The Capitalise Platform will leverage the power of cloud computing to simultaneously test alternative scenarios, notifying investors if it detects a potentially superior strategy. Then, investors will be able to evaluate these suggestions and modify their strategies accordingly.



### 2.4 The Capitalise Social Arena: Learn, Grow & Invest

Another Capitalise feature on our roadmap is the Social Arena, which we'll build out in 2019.

With the Capitalise Social Arena, seasoned traders, known as Strategy Authors, will be able to publish their strategies to the Social Arena, attracting followers whose trading objectives align with their own. Then, less experienced participants will be able to follow investment strategies devised by those Strategy Authors. Each published strategy will display a concise description of that strategy's methodology without revealing its foundational principles. Community members will be able to easily search for strategies based on various variables, including type of trade, performance, vola-tility, risk assessment, etc.

Those who author popular trading strategies will earn profits not only from their own portfolio performance, but also from commission on their followers' trades in the form of CAP Tokens.

Strategy Authors will constitute the core of the Capitalise Social Arena. They'll be our super-users, continuously populating the Arena with the content they create to formulate their trading strategies. As a strategy grows a following, its Strategy Author will gain prominence in the Social Arena and that strategy may yield increased profits for the overall community.

For less experienced traders, the Capitalise Social Arena will provide a coveted opportunity to both profit and learn from the sophisticated strategies of their more seasoned peers. By allowing them to back a strategy with an investment, the Capitalise Platform will offer these amateur participants a flavor of financial exposure that is typically rare. In this sense, the Social Arena is set to soften a newcomer's landing into the tough world of trading with a marketplace structure that benefits traders at all levels.



# 3. TARGET AUDIENCES: ONE PLATFORM FOR ALL

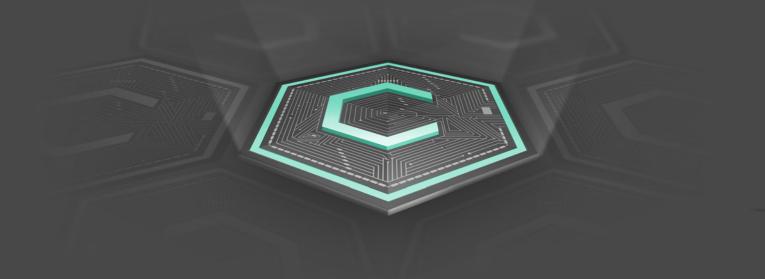
With the benefits of widespread attention, come the inevitable pitfalls. While everyone talks about financial markets — heated debates in online forums, detailed discussions within niche publications, and personal predictions on social media — it can be difficult to filter the signals from the noise.

Traders of both traditional and crypto assets are active followers of these crowded conversations — always analyzing the data and monitoring the markets, following influencers on social media, and feverishly consuming news to determine the best time to buy or sell. Yet still, no matter how much time a trader invests in keeping up with the news, they're still only human — and the human brain can merely handle hundreds of data points, not millions.

However, if a machine could do the work our minds can't, human traders could incorporate exponentially more information into their strategies.

Traders come from diverse backgrounds and hold varying degrees of knowledge, and we're developing the Capitalise Platform with all traders in mind. Capitalise's natural language interface makes it an easy-to-understand tool for anyone to use, while its advanced features enable users to create sophisticated strategies. Plus, they can boost their abilities in the Social Arena, where new traders can learn from their more experienced peers. At the same time, seasoned investors can hone their skills and build a following, while earning additional CAP Tokens. The Capitalise Platform has something for everyone: from trading novices to investing veterans.

As trading cryptocurrency transforms from a niche interest into a full-fledged investment market, there is a yet unmet demand for quality trading platforms that address the needs and ambitions of those trading in both crypto and traditional markets, whether they're private individuals or institutional investors.



# 4. TOKENOMICS

### 4.1 The CAP Token: Cultivating a Community

CAP Tokens are the fuel that powers the Capitalise Platform. They're used to pay various platform fees and are the reward earned from successful strategies in the Social Arena.

CAP Tokens are the medium of exchange for the Capitalise community and enable value transfer from user to user and incentivize network involvement from everyone.

#### 4.2 Fees

#### **Transaction Fees**

CAP Tokens are required to trade on the Capitalise Platform. Traders are charged a minor fee, which is calculated as a percentage of the total transaction and paid with CAP Tokens.

Since the tokens are necessary to utilize the services provided by the Capitalise Platform, users need to purchase tokens to use more of these services.

#### **Backtesting Fees**

CAP Tokens are also the means of payment for access to computing power for backtesting and strategy optimization (see "Backtesting & Optimization" technical section).

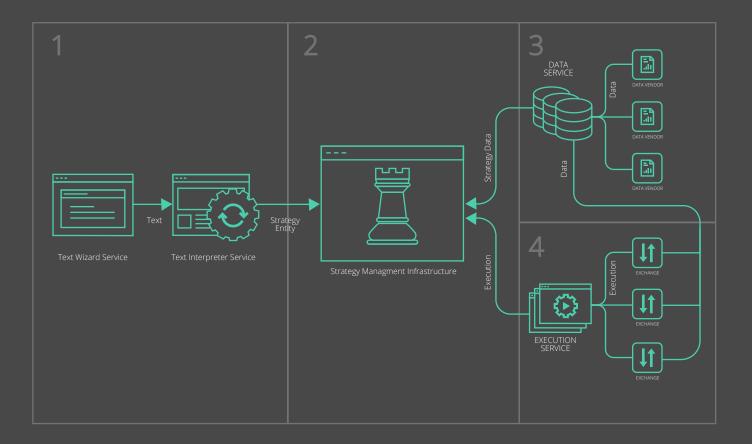
# **5. ARCHITECTURE**

### 5.1 High Level Overview: How We Make Sophistication Seem Simple

A succession of key processes power the Capitalise Platform, culminating in a superior trading experience. To start, investor instructions are incorporated into a strategy to create the Strategy Entity (depicted below), which is then uploaded to a distributed cloud service. Next, this newborn Strategy Entity subscribes to market data collected from external vendors. Lastly, it deploys trades across integrated exchanges within the market.

We've included more detailed descriptions of each component in the sections that follow. To help conceptualize these complicated mechanics, we've analogized the Capitalise Platform to the act of flying an airplane and assigned each piece of our process an element of air travel.

We've also illustrated the various components involved in creating, monitoring, and executing a strategy on the Capitalise Platform in the following diagram.



# 5.2 Strategy Creation: The Flight Plan

If the Capitalise Platform is the plane, then the Strategy Creation is the flight plan. Much as a pilot must submit a flight plan prior to a flight, users must enter instructions into the Wizard before the Capitalise Platform can develop a strategy. In turn, the Strategy Creation Wizard inputs those phrases into a logic module, whereupon the Language Interpreter converts said inputs into an algorithm, referred to as a Strategy Entity.

### The Strategy Creation Wizard

When we use the term "natural language," we're referring to basic, English words. This means that a trader can enter any investment idea into the computer using simple, non-technical sentences. Investors need not understand industry jargon or code to enter their ideas into the Capitalise Platform.

#### The Language Interpreter

The Language Interpreter processes natural language inputs entered into the Capitalise Platform, then converts those inputs into an executable algorithm. It works by scanning the text — it recognizes grammar, syntax, and sentence structure — then deconstructing it into singular components consisting of conditions, actions, and relationships. It finishes by translating that text into operational instructions, or in other words, an algorithm. That algorithm is then managed by the Strategy Entity (described below).

We've paid special attention and invested extreme effort into designing an interpreter that easily and painlessly allows for the addition of multi-language support.

The Language Interpreter is powered by external natural language algorithms, including <u>Sorensen's Index/Dice Coefficient</u>, <u>Soundex</u>, and <u>Damerau-Levenshtein</u>, adapting these sources to the investment industry.

To stay completely current, the Language Interpreter is always learning and ever-evolving — it leverages machine learning technology to improve over time. The more strategies it converts to trading algorithms, the larger its vocabulary grows and the better it becomes at incorporating industry lingo, terms, and phrases. For instance, if a user inputs the word "purchase" to describe the "buy" action, the Language Interpreter will index these synonyms and adapt with use.

The Language Interpreter also features predictive text, which displays a list of suggestions as a user types. Suggestions are customized based on previous strategy inputs and the collective behavior of the Capitalise Platform's user base. Predictive text further incorporates simplicity into the Capitalise Platform — not only does it empower users in the long run, but it also eases the onboarding process for new users.

# 5.3 Strategy Management Infrastructure: The Flight Management System (i.e. The Computer)

Of course, that algorithm is useless without a means to execute it. That brings us to the Strategy Entity, the logical unit that manages the algorithm. Much as a flight is controlled by a system of computers that talk to the plane's hardware, the Strategy Entity is managed by the Strategies Management Infrastructure, a module that runs multiple strategies against high degrees of variance and uncertainty (and thus enables it to simultaneously run an endless number of strategies).

To do its job, the Strategy Entity gathers data via the Market Data Service (see below), then monitors and analyzes this data based on the algorithm. If a trader's conditions are met, the Strategy Entity sends those commands to the Execution Engine (see below) to carry out the strategy. Additionally, the Strategy Management Infrastructure synchronizes enter and exit positions in the case of conflicting commands. Such contradictory commands may arise from high-frequency transactions when entering and exiting a position and/or a large number of simultaneously ongoing strategies.

The Strategies Management Infrastructure is cloud-based and runs on distributed servers. It's designed for scale, high performance, and robustness. Each Strategy Entity is an independent and portable unit that can instantly migrate from one distributed server to another (with minimal latency) in the case of failure or for the purpose of load balancing. Processing resources are equally allocated amongst units, eliminating the need to sequence priorities or queue a lineup. Plus, the Strategy Management Infrastructure optimizes processing speeds by clustering calculations for multiple strategies that share conditions, then executing those strategies as a group.

### 5.4 Market Data Service: The Flight Data

While in flight, the plane relies on all sorts of data to auto adjust itself. This can be information about the pressure, location, height, etc.

Likewise, the Strategy Management Infrastructure relies on market data from external Data Vendors. Procuring that data is left to the Market Data Service, which pulls and processes relevant information.

Each moment, the Market Data Service processes tick data from tens of thousands of instruments. This includes helpful resources like real-time market data, macro-economic events, fundamentals, cryptocurrency trading attributes, information of token sales, and social media feeds. The system also tracks technical indicators (e.g. MA, EMA, RSI, Bollinger Band) and calculates volumes over different time frames. The system can integrate more data over time, opening a broader set of feeds to traders building strategies.

The Market Data Service is a distributed, high performance, big data system. It pulls data from vendors, then feeds that data to the Strategy Management Infrastructure for processing. It's specially designed to digest high-frequency data streams, and can easily integrate additional data sources to scale. The system is robust — each module is redundant and architected in an active-active configuration (the system creates a second, backup active instance of each component in case of a failure in a stream of data).

### 5.5 Execution Service: The Trip, From Takeoff to Landing

Once it has received real-time market data, the Strategy Entity is ready for takeoff — i.e. to execute trades. Cue the Capitalise Execution Service, which automates the process by managing orders on behalf of the user.

The Execution Service handles the flight, ensuring that your trade makes it safely from point A to point B. It communicates with exchanges and brokers in real time, then manages each and every execution order sent to the exchange or broker, cataloging the information it receives in return and updating execution statuses accordingly. It supports all APIs (FIX, Rest, WebSockets, etc.) and easily integrates with any exchange and broker through whichever API that exchange or broker supports.

Authentication of each transaction follows the method used by its respective exchange or broker. It can be done via Oauth, a generated key (from the exchange), or any other method implemented by the exchange or broker.

Like all other services within the Capitalise Platform, the Execution Service is both redundant and scalable. It's designed to support a large number of orders associated with multiple exchanges and brokers as well as triggered by a diverse array of strategies.

### 5.6 Strategy Simulation Mode: The Flight Simulator

If you want to learn to fly without the risk of falling, you use a flight simulator. It allows new pilots to learn the ins and outs of flying an aircraft before ever leaving the ground.

Similarly, the Capitalise Platform allows you to try out your plan without actually investing. In simulation mode, you can simulate your strategy to ensure that you're prepared prior to takeoff.

Simulation mode allows users to test a strategy's performance using real market data, without making actual trades or risking funds.

#### 5.7 Backtesting and Optimization: Flight Planning System

Every flight comes with a carefully calculated plan and a heavily considered backup plan. Flight planners must account for headwinds and tailwinds, weather, weight, and any other factors that might affect the flight between takeoff and landing.

On the Capitalise Platform, you can take your strategy for a test flight using historical market data with backtesting analysis. Set your conditions and immediately see how your strategy would have performed according to the market's past movements.

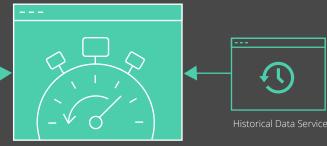
Plus, modern day flight plans are optimized by millions of computer calculations. Likewise, the Capitalise Platform will analyze thousands of data points, so you can fully optimize your plan.

The optimization service analyzes the trading strategy entered into the system, seeks a better alternative, then suggests any possible improvements for the user to accept or reject. The illustration below shows the full optimization process.



Text Wizard Service

Text Interpreter Service



Backtest & Optimization Infrastructure

Each strategy is created with a set of conditions. The optimization process uses these conditions as core data points, then inserts them into a matrix of possible variations based upon those conditions. With each variation, it adjusts the parameters of the condition. For instance, if the system is assessing based on the command "sell BCH when market cap reaches 10 percent," it will evaluate situations when BCH reaches 9 percent, 10 percent, 11 percent, and so on.

The system then uses its AI engine and a distributed calculation infrastructure to select the best strategy variation from the matrix. It takes into account parameters such as test density, data resolution (tick, 1-minute bar data, etc.), data period (score of historic data applied to each test), and other relevant criteria to fine-tune the optimization process in accordance with the needs of that particular user.

# 6. TEAM

### 6.1 A Force Ready to Shape the Cryptocurrency Market

Capitalise Ltd. is a venture-backed company straight out of Startup Nation. The 17-member team is made up of expert developers and experienced financial professionals. Our natural language interface Trading Platform is fully built, publicly launched, and available for use in crypto and traditional markets. We've forged partnerships with leading brokers and exchanges worldwide and are working to change the face of retail trading.

The Tel Aviv-based company was founded in 2014 by two veteran fintech experts, both of whom have devoted their careers to top companies in the finance field. Capitalise Ltd's technology has been showcased at Finovate<sup>11</sup>, a leading financial technology conference, not once, but twice. Both times, it earned a top distinction for "Best of Show." Capitalise participated in the Microsoft Accelerator program in Tel Aviv, and is proud to partner with Microsoft. In 2017, the team completed the Plug and Play Fintech Accelerator program in Silicon Valley.

#### 6.2 Team



#### Shahar Rabin, CEO and Co-Founder

Shahar hails from the world of day trading, where he traded in traditional markets for over 15 years. As an engineer, he developed automated trading systems for the derivatives markets. He has vast experience as a day trader, and has worked as a product manager at various technology companies. Shahar is a DIY enthusiast, favoring projects that use electronic or mechanical tools to provide tangible solutions.



#### Amir Shiovich, CTO and Co-Founder

Amir has over 12 years of design and development experience under his belt. He's a proud alumnus of Ben Gurion University, where he earned his BSc in biomedical engineering. Before co-founding Capitalise, Amir spent four years working at SuperDerivatives (acquired by ICE), where he led the R&D team in building the infrastructure for the company's newest generation of products. His technological specialization focuses on scalable, high performance, and distributed applications.



#### Yonatan Ben Moshe, Developer

Yonatan holds a BSc in information system engineering from Ben Gurion University. He has a full decade of experience as a full-stack developer specializing in development of high performance, cloud-based financial systems, and natural language technologies. Before joining the Capitalise team, he most recently worked at Bolt Solution and SuperDerivatives.



#### Tzah Granot, Developer

Tzah is a full-stack software engineer with 10 years of experience leading the development of large-scale distributed systems. He previously worked at SuperDerivatives, where he gained valuable, fintech-specific skills and specialized in big data projects. Tzah earned his BSC in software engineering from Ben Gurion University.



#### Dori Megori, Head of Product

Dori is a product innovator with more than a decade of experience in the financial industry, both as a trader and as a product manager at various fintech companies. Dori brings his experience in trading systems along with his knowledge of UX design. He holds a BA in business administration and master's in conflict management from Bar-Ilan University



#### Or Sabag, Product Designer

Or began his designer career in the world of digital advertising 13 years ago. In that time, he's led large advertising campaigns for companies spanning across a wide range of sectors, including Mercedes, Tuborg, EL AL, and Gartner. Or has also designed products for eToro, Percepto, Automation, Engageya, and of course, Capitalise.



#### Shirly Shirgaonker, QA Engineer

Shirly is a seasoned lead quality assurance engineer, with years of experience working in the financial sector. During that time, she developed her skills in banking, agile methodologies, databases, and mobile applications. Her knowledge touches all tools, concepts, and methodologies under the QA umbrella. She earned her bachelor's degree in business administration from Bar-Ilan University, where she majored in economics.



#### Alma Vilcov, Head of Customer Success

Alma is an experienced customer success and professional services executive. With her superb communication skills, keen business sense, and effective management style, she's helped global companies of all sizes grow their businesses by creating scalable infrastructures built for long-term success.



#### Dima Golbert, Developer

Dima is an innovative software engineer, with over half a decade of experience in application development. Before joining Capitalise, Dima worked for VMware, where he specialized in software design for both virtual and physical environments. He graduated from Ben Gurion University with a BS in computer science.



#### Barak Levi, Developer

Barak is a well-versed backend developer. He's been an integral part of the Capitalise team since 2016, which he joined after six years as a senior software developer in the Israeli Air Force. Barak has deep knowledge of software development and extensive experience in solution development. He earned his BS in Computer Science from the College of Management.



#### Noa Bener, Developer

Noa is an accomplished software developer, with extensive experience from her six years serving as a software developer in an elite technological unit of the IDF. Noa implements new product features and improvements, both on Capitalise's backend and frontend. She holds her BS in Computer Science and her MBA from the College of Management.

#### 6.3 Advisors



#### Shaun Djie, Co-Founder and COO, DigixGlobal

Shaun is the co-founder and COO of Digix and an advisor to SwipeCrypto, Indorse, Aditus, and PolicyPal. He has a background in algorithmic trading form Ascensus Capital, where he founded the team that traded across Eurex, CME, and NYSE markets in FX, commodities futures contracts. Aside from his full-time commitment to Digix, he is also the lead organizer of Ethereum Singapore meetup, the largest meetup group of its kind in Asia and third largest in the world. He is also the technical committee member for blockchains in the Singapore Standards Council as jointly organized by IMDA and SPRING Singapore.

#### Ken Shishido, Bitcoin Evangelist

Ken is one of Japan's most famous Bitcoin and cryptocurrency advocates. He's been co-organizing the Bitcoin Tokyo Meetup Group since 2013 and personally hosted more than 170 meetups over three years. Ken serves as an advisor to many crypto startups and frequently speaks at crypto meetups and events. Ken is a libertarian and believes in sound money and open and free market competition. He lives in Tel Aviv and Tokyo.



#### Sebastian Stupura, Founder, WINGS.ai

Sebastian is an entrepreneur, visionary, father, and true believer in crypto and blockchain technologies. He's been an involved advocate of the crypto community since 2013. Sebastian is a co-founder of WINGS and former employee at Crypti. He holds broad multidisciplinary experience in strategic planning, investor relations, information systems, business development, product, and project management.



#### Stas Oskin, Founder, WINGS.ai

Stas has more than 10 years of experience in engineering and development, as well as management of software, cloud, healthcare, cryptocurrency, and social products and services. He is an entrepreneur, crypto-enthusiast, and lifehacker.



#### Yuval Gov, CEO, CryptoPotato.com

Yuval is the co-founder of CryptoPotato, a leading online source for cryptocurrency news and industry developments worldwide. He has over 15 years of trading experience and has been living and breathing crypto since 2013. Yuval holds his BA in economics and management from Tel Aviv University.

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# 7. PRODUCT ROADMAP

### 7.1 Previous Highlights & Milestones

#### May 2015

Capitalise LTD raised \$1M. Company is poised to develop the next generation of trading technologies

### February 2016

Showcased an earlier version of Capitalise Automated Trading Platform at Finovate Europe — won "Best of Show" award.

#### January 2017

Capitalise secured Series A funding from leading VCs.

#### April 2017

Showcased at FinovateSpring, once again winning a "Best of Show" award.

#### • August 2017

Capitalise signed an agreement with two major brokerage firms to offer a white label solution. Integration has begun.

#### December 2017

Adapted Capitalise LTD's proprietary trading platform for cryptocurrency markets and launched closed beta.

#### February 2018

Launched the Capitalise Platform V1.0

#### May 2018

Rolled out integration with additional cryptocurrency exchanges.

#### July 2018

Brand merger between the Capitalise proprietary trading platform and the Capitalise Crypto platform.

#### • H1 2019

- Capitalise Mobile app
- Multilingual support

#### H2 2019

- Roll out backtesting of investment strategies
- Roll out Social Arena
- Roll out integration with additional cryptocurrency exchanges

#### H1 2020

- Roll out optimization of investment strategies
- Roll out integration with additional cryptocurrency exchanges
- Launch "My Holdings" product

### A Few Words About Project Risks

The following are the risk factors in relation to Capitalise business in general and CAP Token generation event in particular. Additional risk factors can be found at <u>"Legal Considerations, Risks and Disclaimer"</u>.

#### **Token Sale Risks**

- There is no prior market for CAP Tokens and the CAP Token Sale may not result in an active or liquid market for CAP Tokens.
- CAP Tokens are designed to hold value in the framework of the Capitalise Platform and the use of the services provided therein. If you no longer wish to receive such services, you will most likely be required to sell your CAP Tokens on an exchange, which may be difficult or impossible under certain market conditions.
- Future sales or issuance of CAP Tokens could materially and adversely affect the market price of CAP Tokens.
- Negative publicity may materially and adversely affect the price of CAP Tokens.
- There is no assurance of any success of the Company's business platform or any future CAP Token functionality.
- The market price of CAP Tokens may fluctuate following the token sale. The cryptographic tokens market is a dynamic arena and their respective prices are often highly unpredictable and extremely volatile. Historical facts and past operating results are not intended to mean that future performances or results for any period will necessarily match or exceed those of any prior year.
- The private keys to the escrow wallet may be compromised and the cryptocurrencies may not be able to be disbursed.
- The Token may be significantly influenced by cryptocurrencies market trends and Token value may be severely depreciated due to non-Capitalise related events in the cryptocurrencies markets.
- The use of the Tokens may come under the scrutiny of governmental institutions.
- The ownership of CAP Tokens may fall under new and unpredicted taxation laws that will erode Token benefits.
- The CAP Token is based on the Ethereum protocol, which may be subject to sudden changes in operating rules ('forks'), that may materially affect the value, function and even the name of the Ethereum network and all ERC20 tokens.
- There may be unanticipated risks arising from the Tokens.

Applicable laws and regulations may limit the utility, functionality, accessibility, and transferability of the Tokens. Regulation or changes in government policies may be restrictive and subject to licensing or other permits.

Token sales have been known to come under malicious attacks from hackers and/or other parties resulting in theft of tokens. Such events may inflict massive losses on buyers and the company. You are solely responsible to safely hold any CAP Tokens you purchase, as the risk of loss of such tokens can be substantial, and no token has a central bank-like entity that can take corrective measure to protect the value of such tokens.

#### **Company Related Risks**

- The Company may be materially and adversely affected if it fails to effectively manage its operations as its business develops and evolves which would have a direct impact on its ability to maintain or operate the Company's business platform and/or develop structure and/or license any future Token functionality.
- The Company may experience system failures, unplanned interruptions in its network or services, hardware or software defects, security breaches, or other causes that could adversely affect the Company's infrastructure network, and/or the Company's business platform.
- The Company may in the future be dependent in part on the location and data center facilities of third parties.
- General global market and economic conditions may have an adverse impact on the Company's operating performance, results of operations, and/or cash flows.
- The Company or the Tokens may be affected by newly implemented regulations. The Capitalise Platform and the service provided thereby may experience sophisticated cyberattacks, unexpected surges in activity, or other operational or technical difficulties, which may cause delays in the use of the service or affect CAP Tokens.
- The Capitalise Platform does not provide any guarantee as to the performance of any particular strategy. Each trader is solely and exclusively responsible for determining whether any strategy is appropriate or suitable for them, based on their investment objectives and financial situation.
- The Capitalise Platform services rely on the integration of external resources with the system, such as links to other websites, circulated newsletters, and other third party information. By doing so, neither we nor any of our affiliates are endorsing, giving any representation, warranting, guaranteeing, sponsoring, or otherwise responsible for the accuracy, correctness, timeliness, completeness, or suitability of such information.

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