



Speculative Tokenized Trading Exchange

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▶ EXECUTIVE SUMMARY

SPECTRE (short for Speculative Tokenized Trading Exchange) is the world's first brokerless, financial trading platform with an embedded, decentralised liquidity pool. Today, the financial trading industry is mired with conflict of interest and fraud. Brokers have been long known to manipulate prices and even refuse withdrawals, thereby destroying retail trader balances and finances, over time. This contributes to a shocking 70-90%+ industry loss ratio¹, meaning that more than 7/10 traders lose money in the longer run. At unregulated 'bucket shop' brokerages, the loss-ratios are even higher as they simply refuse to allow traders to withdraw profits. Owing to the advent of blockchain technology, it is now possible to disrupt the existing, outdated model of financial trading. SPECTRE is a generation leap forward in trading technology achieving the following:

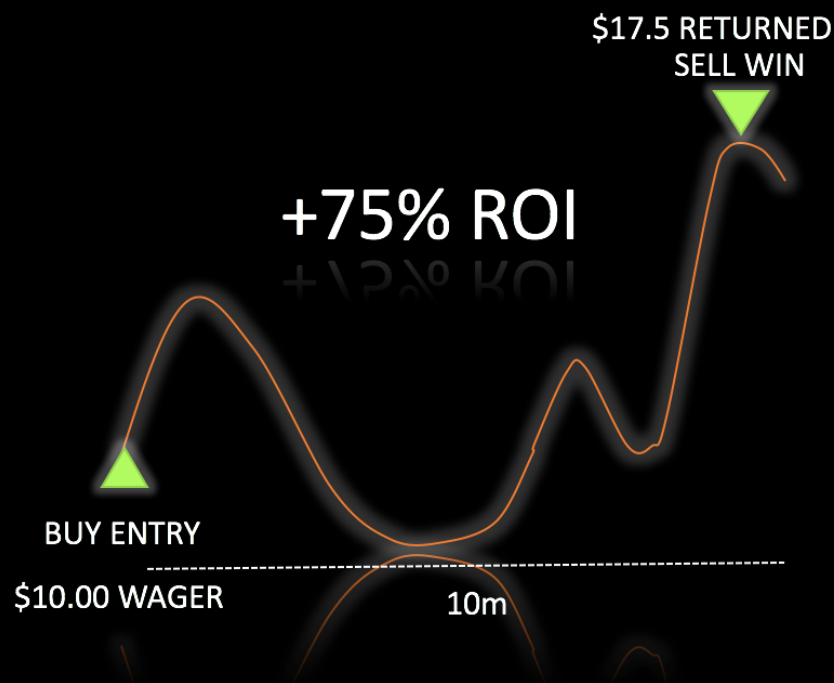
- ▶ Decentralisation and tokenization of the broker, meaning it is owned by the masses.
- ▶ A perpetually growing, tokenized liquidity pool, of which the masses are entitled to an automatic, smart-contract governed dividend pay-out stream.
- ▶ Fees are not generated on client losses but instead on volumes (wins or losses) in SPECTRE, thereby moving away from the traditional conflict-of-interest model.
- ▶ No deposits required by the trader, meaning that transactions happen from on or offsite crypto-wallets and SPECTRE at no point has access to the trader's funds. Withdrawals are processed instantly as well with all transaction outcomes being provably fair and governed by Ethereum blockchain based smart contracts.
- ▶ No salesmen or account managers luring clients to over-trade or trading on behalf of the client.

The above advances are likely to render traditional brokerages irrelevant and hand over power back to the retail traders, instilling total transparency across the multi-billion-dollar retail trading industry. In helping do so, SPECTRE is also introducing a new asset class to the sector by upgrading the traditional "digital option" to a "smart option". We next describe the nature and extent of the problem SPECTRE aims to address.

► PROBLEM

The simplest form of trading is known as a 'digital' or 'binary option'. It is the quickest and easiest way to make a large return (between 70-90% ROI) based on capital invested in any given trade. A trader can profit simply by guessing correctly, whether the price of an asset will rise or fall between now and over a pre-determined period. For example, if a trader speculates that the price of the Euro (relative to the Dollar), will rise between now and over the next 10 minutes and wagers \$10.00 on this, most digital option or binary option brokerages will reward him/her with a 75% ROI on that trade (or \$7.50 in profit), if he/she has correctly guessed the outcome after the 10-minute expiry period (Exhibit A).

Exhibit A: A simple digital option contract



Unlike random events such as dice-rolls or coin-flips, research into the financial markets (either through chart pattern technical analysis or macroeconomic analysis of the underlying asset's fundamentals) can allow a trader to increase their odds of winning trades from just 50% to up to 80%, over time. Owing to the simplicity of the digital options market, the potential ability to 'beat the market' through research and overall addictive nature of trading, growth in the digital and binary options market went hyperbolic during the 2008-2015 period, reaching a peak annual traded volume of \$30bn.²

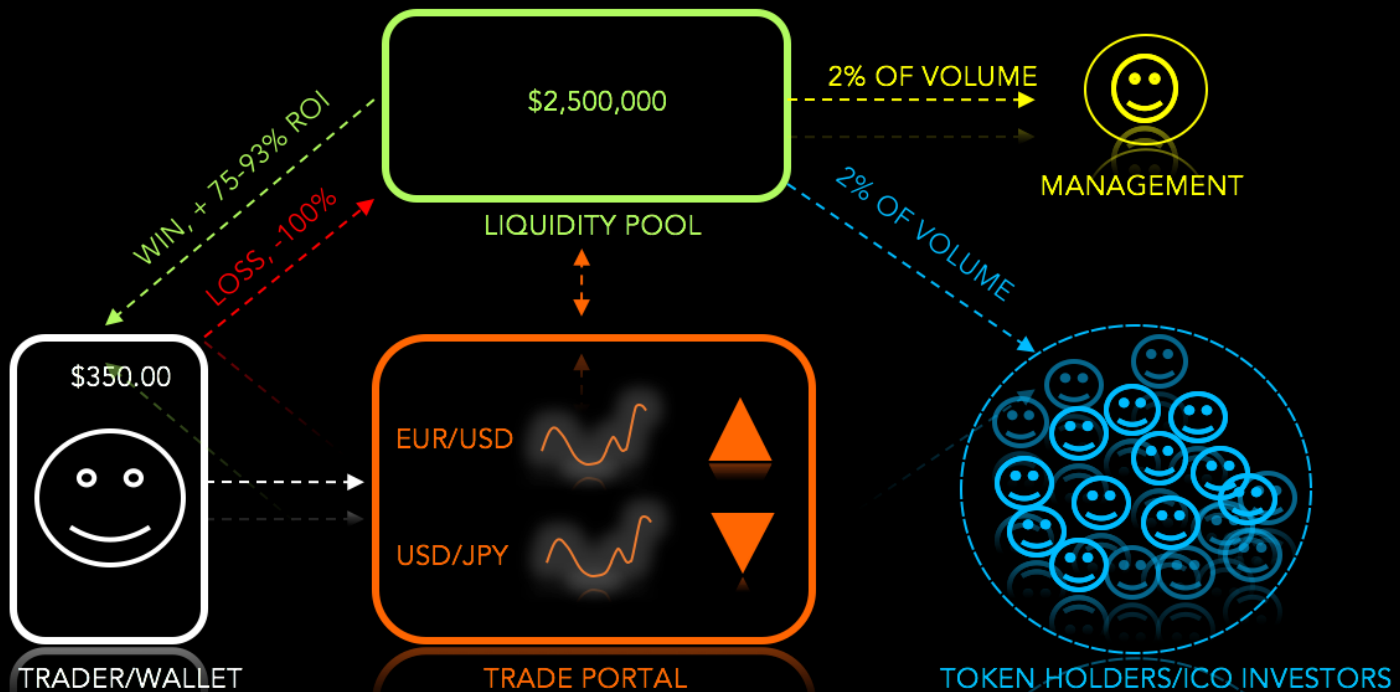
Alas, greed overcame most brokerages and many now regularly tamper with price feeds, pay-out percentages and have often started to rob clients of their capital by trading their account to zero or even blocking withdrawals. This problem is not ring-fenced to just digital options but also classic retail FX trading, where so called 'B-Book' brokerages directly trade against the client.

Prominent examples of fraudulent activity in both, classic retail FX trading and digital options include Banc De Binary, a digital options broker that was ejected from the U.S for defrauding clients (and went on to shut down in 2017),³ FXCM⁴, a major FX trading broker that traded against clients and a range of others. All problems have a common genesis; namely the control of client funds and the fact that it rests solely with the broker.

SPECTRE, which is built on the Ethereum blockchain, removes the broker out of the picture entirely, thereby disrupting the current model and empowering the trader. SPECTRE's aim is to disrupt the digital options and classic retail FX/equities trading industries and lead a paradigm shift. Just how this aims to be done, is described next.

► SOLUTION: SMART OPTIONS

Exhibit B: The SPECTRE model



Note: The above is a snapshot of the SPECTRE business model. 2% dividend payouts to token holders are in reference to SPECTRE's dividend-token and do not accrue to SPECTRE's utility-token which has different dynamics.

SPECTRE is the world's first broker-less financial trading platform with an embedded, decentralised liquidity pool. Like traditional trading, clients are trading against SPECTRE's balance sheet (also known as the 'liquidity pool'), however this pool is initially capitalised and owned by ICO (initial coin offering) investors. In other words, SPECTRE's liquidity pool is owned by token holders who initially invest in the ICO and therefore own a part of SPECTRE's profitability, into perpetuity. Tokens are publicly traded on all major crypto-currency exchanges and thus can be held by anyone.

In this broker-less model, SPECTRE's liquidity pool is completely decentralised and the conflict of interest problem is eradicated (Exhibit B). The trading process at SPECTRE works as follows; the retail trader signs up to the website but deposits nothing. Instead they simply open a crypto-wallet on the website and send funds to that address (this process is verified and governed by the Ethereum blockchain and so, is trust-less and secure). Major off-site crypto-wallets can be connected to this wallet as well. This ensures that funds cannot be accessed or handled by SPECTRE employees or anyone apart from the trader him/herself.

When a trader opens a trade (long or short) for a specified duration, the price of the asset they have wagered on, is monitored by a live, verifiable price feed from multiple audited financial sources such as Oanda. The eventual outcome (win or loss) is determined when the trade expires, by comparing the price of the underlying asset upon expiry, with that upon entry. If the trader has lost the trade, their wallet is

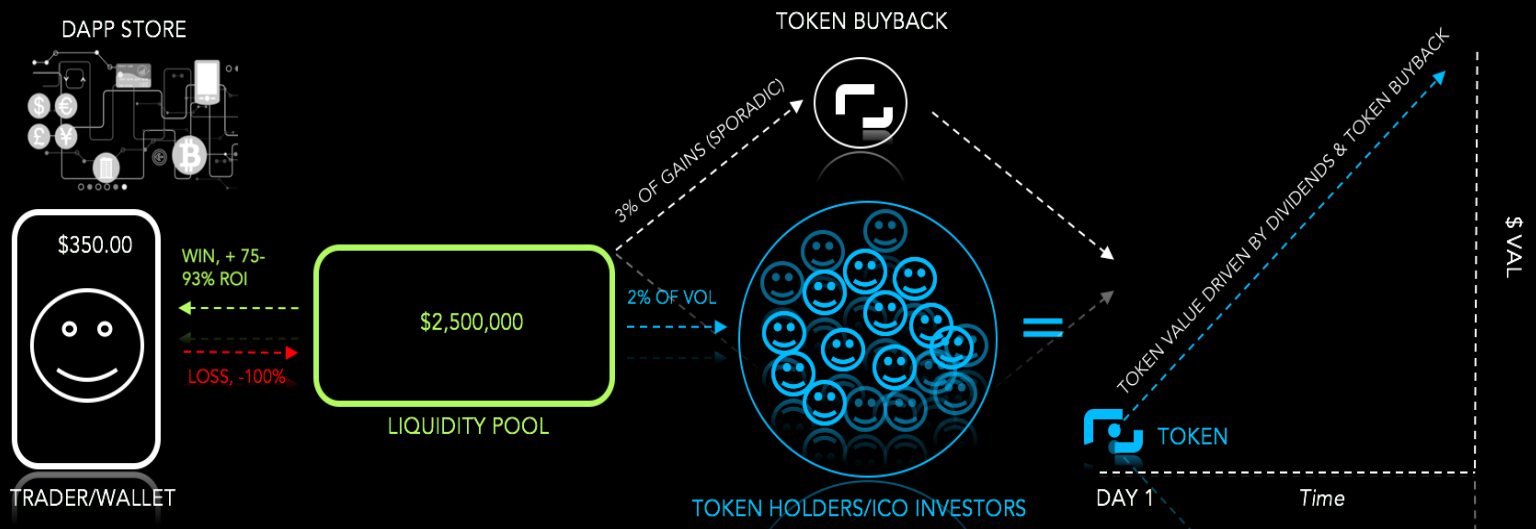
automatically debited for the amount wagered and SPECTRE's liquidity pool is credited, net of 2% trade fees which are paid directly to SPECTRE's operational expenses and 2% dividend, which is paid out to SPECTRE's dividend-token holders (not utility-token holders, who have a different set of rights as explained later).

The remaining 96% of the trader's loss, goes directly to expanding SPECTRE's liquidity pool. If, on the other hand, the trader won, he/she receives an instant 75% ROI (return on investment) and SPECTRE's liquidity pool is debited for that amount. Again, in this instance where the trader has won their trade, a 2% operational fee is paid to SPECTRE and 2%, to the SPECTRE token holder as dividend. Token holders do not face any losses because of this pay-out to the winning trader. This way, SPECTRE and token holder profits are not driven just by losses but instead by overall volumes. Note that the pay-out can, in certain instances, be as high as 93%, depending on volumes in the system at the time. This entire process is governed by a smart contract built on the Ethereum blockchain and cannot be tampered with through human intervention.

The question arises; how can token holders in SPECTRE be comforted that it's ability to pay dividends will remain and/or grow? This is described next, in the perpetual liquidity model.

▶ PERPETUAL LIQUIDITY & TOKEN PRICE APPRECIATION

Exhibit C: Perpetual liquidity pool and dividend growth



Note: The above is a snapshot of the SPECTRE business model. 2% dividend payouts to token holders are in reference to SPECTRE's dividend-token and do not accrue to SPECTRE's utility-token which has different dynamics and is instead supported by trader purchases in-platform along with the token-buy-back program picture above which is focused on the utility-token alone.

As eluded to earlier, SPECTRE will have two types of tokens in issue; each separately traded on different exchanges, in order to be compliant with ever-changing regulations and cater to different types of investors. As for the dividend-token, SPECTRE pays out normal dividends and special dividends to dividend-token holders. Normal dividends, as described earlier, are paid as a 2% volume fee on trader's wins or losses in the system, typically at the end of each month. Whether trades are generated on SPECTRE or other D-Apps connected to the liquidity pool, is not relevant from the token holder's perspective. The more trades that are taken across the entire ecosystem, the more dividends that are paid out. So, a growing number of users on the platform (either directly on SPECTRE or other integrated D-Apps) will mathematically translate to higher volumes traded, resulting in perpetual growth in dividends to token holders. Special dividends, however, are paid out at the end of the year and only occur if SPECTRE's liquidity pool (which directly grows when traders lose) has grown above a pre-determined threshold. This threshold is detailed in the 'Market Opportunity' section later.

The average win rate of inexperienced traders is around 35-50%.⁵ Experienced traders, however, who spend time in learning technical or fundamental analysis in order to gain an edge and be able to beat the market, can at times obtain a 60-70% win rate, although emotions and greed tend to get the better of them, thus suppressing their win-rates below 60%, over time.⁶ Since SPECTRE's liquidity pool pays out 75% on winning trades (and as high as 93% in certain conditions) but keeps 96% of all losses, traders on average need to maintain at-least a 57% win-rate in order to break-even. This is difficult for the masses to achieve and therefore, average win rates in the system are likely to hover

under 48-53%, resulting in perpetual growth in SPECTRE'S liquidity pool and contractually, the size of special dividend payment to token holders (Exhibits C & F).

This makes the SPECTRE token an industry first, namely one that offers a perpetual dividend stream driven by various avenues of growth, albeit on a fixed token supply, meaning that the value of the token must increase over time, from a *mathematical* standpoint (Exhibit C). As for SPECTRE's utility-token, this does not pay financial dividends, however, it gives vital in-platform privileges to traders which increases their chances of capital gain through time. These privileges are:

- ▶ 1-5% higher trade pay outs
- ▶ All trade expiries on smart option contracts
- ▶ All assets (not just a few per asset class)
- ▶ All trade indicators (not just the ones found in the MVP)
- ▶ Exotic trade types (smart option contracts such as knock-in-knock-outs, barriers, ladders and more)
- ▶ Spectre Financial Education Academy (SpecED)

What further pushes the utility-token's value over time is the token-buyback-program. SPECTRE's team will be using 3% of fees generated on the system to purchase SPECTRE utility-tokens as part of a wider token-buyback-program. No more than 15% of outstanding supply will be purchased. (Exhibit C).

When comparing the SPECTRE model to the current, defunct broker model, which benefits only from client losses, does not pay dividends, is centralised and is deeply riddled with conflict of interest, it becomes evident which model offers the safest trading environment for traders.

Lastly, SPECTRE, despite its name, is not an exchange in the classic sense in that it's liquidity pool acts as the counterparty to all trades. This, in our view, is advantageous when compared to traditional prediction markets on the blockchain as these have no liquidity pools and are dependent on a large volume of users in order for traders to be able to enter and exit trades in a highly liquid fashion. SPECTRE's model, by comparison, works with as little as 1 user or millions of users. Over time, as the SPECTRE user-base crosses a few thousand active traders, it may be possible for the SPECTRE's conditional liquidity model (CLM) algorithm to match most if not all trades perfectly and thus truly become an 'exchange' in the classic sense; until then, the perpetual liquidity model serves the purpose rather efficiently. We discuss this and balance sheet/liquidity pool protection, next.

► BALANCE SHEET RISK MANAGEMENT

If the ICO funding target is met, this will mean that upon launch, SPECTRE's liquidity pool will be around \$5,000,000 (if not higher, depending on potential token over-subscription by investors). This pool can support 1,000 daily traders, each trading 6 trades per day at transaction sizes of \$50.00 per trade and holding extremely high win-rates of 59% (which is around 9% above the industry average currently) for around 11 months, before going into minus. Hence, the liquidity buffer is ample even in the extremely rare event that traders *en masse*, can beat the market. However, owing to the stats outlined earlier, the highly likely course of progression of the liquidity pool will be upward, in that average win rates by the trading community will be well under 52%, resulting in profitability for dividend-token holders from day 1 after launch.

The SPECTRE tokenized balance sheet model is robust in that it scales and works even if just \$100,000 or ETH equivalent is available in the pool. If for some reason the ICO is under-subscribed by token investors, then the system controls programmed by the SPECTRE team would mean that maximum trade sizes and number of trades per day are limited such that overall balance sheet liquidity is protected but at the same time, traders can continue to earn, albeit smaller amounts.

At liquidity pool sizes of over \$5m, trade controls can be lifted and eventually when the balance sheet reaches institutional sizes of \$30-50m+, larger trade sizes such as \$5,000-\$50,000 or ETH equivalent per trade, will be made possible. While protecting SPECTRE's liquidity pool is important, of equal importance is the provision of the world's most transparent and trustworthy trading environment for traders. This is discussed next.

► TRANSPARENCY & TRADER PROTECTION

Exhibit D: SPECTRE trade platform, trade entry window

The screenshot shows the SPECTRE trade platform interface. At the top, the SPECTRE logo is displayed. Below it, the asset is identified as AUD/CHF. The interface is divided into two main sections: input fields on the left and a summary panel on the right. The input fields include 'Size %' (set to 1), 'Allocation: 101.00', 'Expiry' (set to 5 minutes), and 'Type' (set to Freestyle). The summary panel on the right displays 'Potential Payout' as 182.31, 'Potential ROI' as 81%, and 'Profit Amount' as 81.31. Below this, a 'Broker's Spot Price' is shown as 0.3751 with a small line graph. At the bottom of the window, there are 'Enter' and 'Close' buttons.

Field	Value
Asset	AUD/CHF
Size %	1
Allocation	101.00
Expiry	5 minutes
Type	Freestyle
Potential Payout	182.31
Potential ROI	81%
Profit Amount	81.31
Broker's Spot Price	0.3751

SPECTRE sets a new standard for transparency in the retail trading industry; not least because it removes the broker out of the equation, but also because all traders can see the real-time value of SPECTRE's liquidity pool and subsequent fluctuations therein along with pay-outs to dividend-tokens holders, at all times. Unlike most conventional trading platforms designed by technology companies like Spot Option (which powers 65% of all digital option trading platforms globally), Metaquotes Software Corp (creator of Mt4/Mt5, which is used by over 70% of all FX traders)⁷ which show little to no analytics depicting a traders win-rate, strengths, weaknesses and other important statistics, SPECTRE's trading platform comes embedded with emotion control, risk management, trade setup identification, deep trader analytics, trader chat and on-board education to help traders gain an edge on the markets (Exhibit E).

Exhibit E: SPECTRE Analytics Portal



As part of SPECTRE's trader protection initiative, neither SPECTRE or any of its employees have access to the trader's wallet (known onsite as the *private escrow*). Therefore, all withdrawals are instant, free of classic broker intervention tactics and paid out without any fees subtracted. As all transactions in SPECTRE are governed by Ethereum smart contracts resting on the public blockchain, no human intervention is possible. Owing to the aforementioned platform advantages along with the broker-less model SPECTRE introduces to the sector, the market opportunity for both traders and ICO investors alike, is rather significant. This is quantified in greater detail next.

▶ MARKET OPPORTUNITY

Exhibit F: Forecasts

Forecast Year	2018	2019	2020	2021	2022
Traders	3,000	7,500	15,000	27,000	45,900
% change y-o-y		150%	100%	80%	70%
Volume	\$79,200,000	\$198,000,000	\$396,000,000	\$712,800,000	\$1,211,760,000
% change y-o-y		150%	100%	80%	70%
Trader wins	\$30,888,000	\$77,220,000	\$154,440,000	\$277,992,000	\$472,586,400
Trader losses	\$38,016,000	\$95,040,000	\$190,080,000	\$342,144,000	\$581,644,800
Gross revenues	\$7,128,000	\$17,820,000	\$35,640,000	\$64,152,000	\$109,058,400
% change y-o-y		150%	100%	80%	70%
SPECTRE fees	\$1,584,000	\$3,960,000	\$7,920,000	\$14,256,000	\$24,235,200
% change y-o-y		150%	100%	80%	70%
Normal Dividends	\$1,584,000	\$3,960,000	\$7,920,000	\$14,256,000	\$24,235,200
Per dividend-token	\$0.02	\$0.06	\$0.12	\$0.21	\$0.36
% change y-o-y		150%	100%	80%	70%
Projected dividend yield	16%	34%	51%	61%	64%
Special Div LP Growth Target	20.0%	30.0%	50.0%	50.0%	50.0%
% excess growth in LP	178%	383%	585%	712%	813%
in value (\$)	\$3,560,000	\$9,180,000	\$18,240,000	\$33,300,000	\$57,078,000
% payout factor to dividend-token	70.0%	70.0%	70.0%	70.0%	70.0%
Special Dividends	\$2,492,000	\$6,426,000	\$12,768,000	\$23,310,000	\$39,954,600
Per dividend-token	\$0.04	\$0.10	\$0.19	\$0.35	\$0.60
% payout factor to SPECTRE	30%	30%	30%	30%	30%
Special Div SPECTRE (\$)	\$1,068,000	\$2,754,000	\$5,472,000	\$9,990,000	\$17,123,400
Combined Dividend Per Dividend-Token	\$0.06	\$0.16	\$0.31	\$0.56	\$0.96
% change y-o-y		155%	99%	82%	71%
Projected dividend yield	41%	74%	85%	83%	78%
Net Liquidity Pool	\$2,400,000	\$3,120,000	\$4,680,000	\$7,020,000	\$10,530,000
% change y-o-y		20%	30%	50%	50%

Note: The above is a snapshot from our detailed financial forecasts model which can be found on www.spectre.ai.

The retail FX trading industry is worth around \$81 trillion every year (or around \$2-300bn per day in turnover). This represents just c.3-6% of the wider FX trading market.⁸ It is served by a global 4 million strong retail trader user-base.⁹ As for the digital or binary options industry, this is estimated to be around \$30bn per year in volumes (c. \$2-3bn in deposits), served by an estimated 200,000 retail traders around the world.¹⁰ Owing to the increasing level of fraud, volumes in the industry are under attack at the time of writing.

SPECTRE upon launch will immediately tap and disrupt the latter. Owing to its structural advantages over the classic, defunct broker model, it is likely to gain significant market

share and help increase the allure of digital options over the world. This itself can result in a shift; whereby classic FX traders enter the world of digital options (now 'smart options') as it offers a simpler, quicker and equally safe way of trading the financial markets. However, the aim of SPECTRE's management team is to enhance functionality over the medium-term, such that SPECTRE also allows the physical buying and selling of FX and equities, by accessing the global liquidity pool which, owing to continued progress by the Enterprise Ethereum Alliance (EEA), will be repurposed for the blockchain where Ethereum can be used as a settlement layer. In other words, SPECTRE's goal is to ultimately disrupt classic retail FX and equities trading where many brokers still trade actively against clients, but will first disrupt digital options, where broker fraud is holding the entire industry hostage and arresting the growth of what can be a multi-billion-dollar asset class.

In our dynamic forecasts model (which is accessible on www.spectre.ai), we provide three scenarios; the base case, bull case and bear case. The assumptions detailed in the base case will form the basis of the discussion here. This entails purchasing smaller brokerages looking to exit, two of which we have already run due-diligence on and received indicative fair valuation ranges for (c. \$0.1-0.3m range cumulative). Partially owing to these bolt-on acquisitions, we forecast SPECTRE to capture 3,000 traders by the end of year 1. By year 5, we expect to have captured 45,900 traders, implying a digital options market share of around 23% on a volume basis. We forecast SPECTRE's balance sheet or liquidity pool (after all fees and dividends paid to SPECTRE and dividend-token holders) to grow by 20% in year 1 to around \$2.4m. By year 5, we forecast the pool to have grown to \$10.5m (Exhibit F). It is worth noting should the management team decide to not pursue bolt-on acquisitions post ICO, then the focus will be on organic growth but this would mean that forecasts get pushed out by a year.

As for SPECTRE fees, which are set at 2% on all trades, we forecast fee income of \$1.6m in year 1 and \$24.2m by year 5. Our forecasts translate to a client life-time-value (LTV) of around \$800-900, in-line with current brokerage data received. Once clients, in our view, see that SPECTRE is by far the safest way to trade digital options and FX, we forecast a dramatic rise in LTVs, although we have not modelled for this explicitly in our forecasts. It is worth noting that in addition to SPECTRE earning fee income by charging a 2% trade transaction fee, SPECTRE also receives a special dividend (along with token holders as highlighted earlier) at the end of each year. The mechanics of this are described next.

► Dividends, Special Dividends and Token Buyback Program

We forecast combined dividends (eg. normal and special dividends) to dividend-token holders of \$4.1m to be paid out in year 1 (or \$0.06/token) translating to a projected token-yield of 41%. By year 5, we forecast total dividend payments per year to reach \$64.2m (or \$0.96/token), resulting in an annual 78% forecasted token-yield for ICO token investors. This compares to a paltry 1-5% dividend yield paid on tech stocks across the globe. As mentioned earlier, special dividends in the system are paid at the end of the year and only when the liquidity pool has experienced growth above a set threshold. If indeed pool growth exceeds pre-set, end-of-year targets at SPECTRE, any excess growth above these targets is going to be paid out at a 70/30 pari-passu basis to token holders and SPECTRE management, respectively. The benchmark level, also known as the hurdle rate, in terms of annual balance sheet growth, starts at 20% and expands to 50% over time. This means that should the SPECTRE liquidity pool grow more than 20%-50% in any given year, the excess growth in percentage will be paid out as special dividend.

As dividend-token supply will be strictly capped, this means that the absolute value of dividend per token may continue to rise, making the token itself a promising risk-adjusted return investment opportunity, in our view. The SPECTRE team will also, from time to time, use 3% of SPECTRE fees/profits to buy back SPECTRE's utility-tokens (no more than 15% of listed tokens). This further serves to increase utility-token price for holders, over time. At the time of writing (2017), the ICO-based fund-raising process may be in somewhat of a temporary bubble with many projects raising large amounts of funding but not having any working products or those that are generating return for shareholders. Tokens that pay out yield or whose engine is driven by the lucrative financial trading industry, give, in our view, token investors a certain degree of "bubble protection" in that the SPECTRE tokens are likely to outperform many others during volatile markets (Exhibit C).

As for pay-outs to traders trading on SPECTRE, we forecast a total of \$30.9m paid out as wins in year 1 on the back of a somewhat conservative 52% win-rate assumption (data from major leading brokerages at present shows a 50% win-rate only). By year 5, this figure would have expanded to \$472.6m. This underlines that despite SPECTRE's liquidity pool and dividends to token holders forecasted to grow, substantial sums of money will be paid out to traders who can beat the market, in a provably fair and transparent manner.

We next discuss competition and its potential impact on our projected growth trajectory.

► COMPETITION

Exhibit G: SPECTRE vs. competition

CATEGORY	ATTRIBUTE	SPECTRE	FX BROKERS	DIGITAL OPTION BROKERS	EXCHANGES
INFRASTRUCTURE	Broker Access to Client Account	No	Yes	Yes	Yes
	Credit Card Details Shared with Broker	No	Yes	Yes	Yes
	Decentralised Liquidity Pool	Yes	No	No	No
	Liquidity Pool Transparency	Yes	No	No	No
	Liquidity Availability	High	High	Low	Low
	Conflict of Interest	No	Yes	Yes	No
	Settlement on Blockchain	Yes	No	No	No
	Centralised Withdrawals	No	Yes	Yes	Yes
	Withdrawal Time	Instant	1-7 days	3-7 days/never	3-7 days
	Withdrawal Risk	No	Yes	Yes	Yes
	Variability in Payouts	No	Med	High	High
	Tokenised Dividends	Yes	No	No	No
	PLATFORM	Transparency	High	Med	Low
Ease of Use		Novice	Experienced	Novice	Experienced
Deep Trader Analytics		Yes	No	No	No
Risk Management Settings		Yes	Low	No	No
Emotion Control Engine		Yes	No	No	No
In-Platform-Education		High	Low	Low	Low
Price Feed Subjective Intervention		No	Low	High	Low
API Intervention		No	Med	High	Med
OPERATIONS	Account Managers	No	Yes	Yes	Yes
	Account Manager Account Control	No	Yes	Yes	No
	Account Depleting Robots/Advice	No	Yes	Yes	Yes

Existing brokerages that are powered by online trading platforms such as Spot Option, London listed Techfinancials, Tradesmarter and Panda tend to power the digital options market. None of these have decentralised liquidity pools or tokenized balance sheets as offered by SPECTRE. While CFTC regulated NADEX does allow for the exchange of offsetting digital/binary option trades by matching traders, liquidity issues do reduce the trading experience and funds are ultimately controlled by the broker. As for the FX market, Metaquotes Corporation offers most brokerages their MT4/MT5 based trading platforms which allow traders to access the global liquidity pool. None of these platforms, however, have any trader protection measures in place, as SPECTRE does (Exhibit G: Full competition matrix accessible on www.spectre.ai).

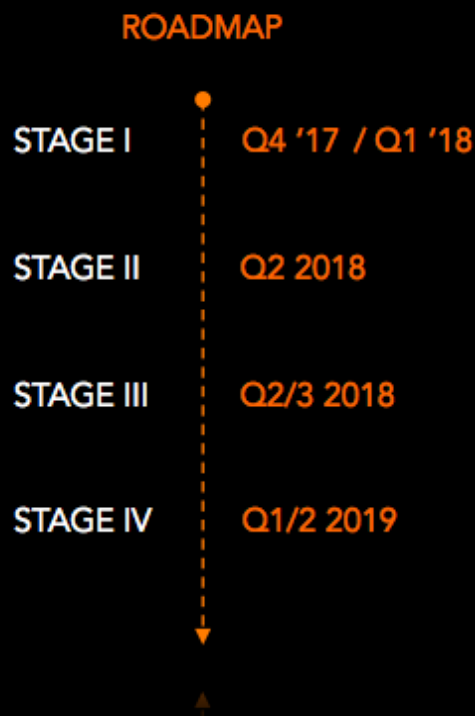
As for recently listed prediction market platforms such as Augur and Gnosis, these are exchanges that match bets on any market that users wish to add to the platform. Users are required to offer their own liquidity initially, in hope that other traders join and play. In our view, this is a less efficient and highly user-growth dependent model, when compared to SPECTRE. As these aren't direct competitors, we have left them off the competition matrix in Exhibit G. Virtual asset platforms such as PRISM do have a digital element to them and are included under 'exchanges' in Exhibit G. In our view, SPECTRE

knock-offs with slight variations will be built on the blockchain eventually, however, the size of the liquidity pool and quality of the trading platform will dictate who remains in pole position. SPECTRE's first mover advantage and significantly ahead-of-the-curve trading platform should allow it to lead the pack, in our view.

However, since SPECTRE is disrupting the business models of many unscrupulous brokers, we do expect certain retaliation such as smear campaigns, DDOs attempts and other online measures. As a result, the group is spending significantly on state of the art online DDOS protection and other pre-emptive measures.

Innovation, in our view, is a key component of staying ahead as well. Therefore, as shown later in the roadmap, SPECTRE's management team will be adding new asset classes; starting off with more currencies and later expanding to equities, commodities, bonds, sports (where applicable) and other non-random assets. Additionally, more trade types such as barrier trades, ladders and other exotic options will be added, thereby dramatically widening the scope of what is offered on the platform. Many of these will be able to be unlocked if traders own the utility-tokens. We discuss this, along with execution and our roadmap, next.

► EXECUTION & ROADMAP



SPECTRE is forecasted to complete its ICO in Q4 2017. In stage 1, SPECTRE (which is already live in alpha mode and can be tested by any trader in the world in demo money mode prior to the ICO), will be re-purposed and heavily security tested for the Ethereum blockchain with an estimated launch in end Q1 2018. It will debut as the world's first broker-less financial trading platform with an embedded, decentralised liquidity pool focusing on currencies. If the ICO funding soft-target (*not* hard-cap) is met, this will mean that upon launch, SPECTRE's liquidity pool will be around \$2,000,000 (if not higher, depending on the level of success the token generation event generates).

Stage 2 will commence in Q2 2018, whereby SPECTRE's balance sheet would have expanded allowing for more asset and trade types to be added. Specifically, the management team will expand the array of currencies to trade on and add new non-random assets such as stocks, along with the addition of commodities such as gold, silver, platinum and others. In addition, after a feasibility study, SPECTRE is likely to add a new asset class known as ULC CFDs (unlevered and capped contracts for difference). This is a hybrid between a smart option and traditional CFD. In tandem, the management will apply to the Financial Conduct Authority (FCA) of UK, with the view to acquire a European Union MIFID FCA broker/dealer license in London, UK. Other regulatory regimes may be sought as well. This process will be incumbent on how quickly the FCA transitions from simply providing a blockchain-based developer sandbox to a detailed regulatory framework for blockchain based trading systems such as SPECTRE. The SPECTRE team is engineering the platform on the blockchain such that it can theoretically transmit all transaction metadata instantaneously to regulatory, purpose-built blockchains such as those being engineered by UCL and the London

School of Economics under project BARAC (accessible on <https://cryptoinsider.com/3-6-million-funding-towards-new-blockchain-projects-uk/>) for reporting purposes.

Stage 3, to commence in Q3 2018, is dependent on the progress major investment banks have made as part of their own development of settlement layers for FX and equities contracts on the Ethereum blockchain. If they have progressed their technology to this stage, then SPECTRE's management team will be able to repurpose the platform to connect with major liquidity providers, giving traders the ability to not only bet on the direction of markets (which they do in digital options) but also actually buy and sell the underlying, speculatively. This includes crypto-currency exchanges as well. Finally, we will give the ability for users to add new trade types and asset markets (including sports betting), not too dissimilar to Augur or Gnosis, the prediction market platforms, albeit with the large liquidity pool of SPECTRE, backing it.

During stage 4 which is Q1-Q2 2019, we will be able to not only introduce order matching capabilities (e.g. the system can find counterparty trades amongst traders themselves instead of making SPECTRE's balance sheet the counterparty), but a D-App Store, which fosters open-source development of a range of financial and sports betting decentralised applications which 'plug-in' to the SPECTRE liquidity pool.

During all stages in the roadmap, the management team will be spending the funds required to ensure capacity constraints or security concerns do not compromise the trading experience (such as DDOS attacks). As for the deployment of ICO proceeds, 20% will go directly towards the tokenized liquidity pool, therefore capitalising SPECTRE with ample liquidity. The research and business development spend, on which the remainder of funds will be spent, will be conducted over c. 3 year period and will cover the following line items:

▶ User acquisition (organic & M&A)	40%
▶ Personnel compensation	20%
▶ Regulatory license acquisition	10%
▶ R&D	7%
▶ Bank-grade security & contract, code and server audits	5%
▶ Servers & software licenses	4%
▶ Platform support personnel	4%
▶ Platform additions & enhancements	3%
▶ Legal & advisory fees	2.5%
▶ Accounting and audit fees	2.5%
▶ Blockchain engineering & testing	2%

▶ TEAM

SPECTRE's team consists of industry veterans, many of which who have direct research, trading and banking experience at J.P Morgan, Goldman Sachs and Deutsche Bank. As for blockchain and cryptography know-how, the team has partnered with veterans in this space to help with the construction of smart contracts, platform re-purposing and token audit phases. As for education, most staff members are educated at the London School of Economics holding bachelors and masters degrees and our more senior, advisory board, consists of Harvard MBA graduates with direct fin-tech/ad-tech experience having started their own companies from scratch, straight through to IPO. Detailed profiles of the core management team can be accessed here: www.spectre.ai/team

▶ REGULATION

SPECTRE's team has carefully evaluated short and long term implications of its dividend-paying tokenised balance sheet model and expects the dividend-token to be treated as a security in most jurisdictions. Its utility-token, however, would not be treated as a security as it carries no financial rewards or rights. As a result, the two would be listed on different exchanges and issued by different corporate entities for legal reasons. Exchanges that welcome dividend-tokens would house SPECTRE's dividend-tokens and the larger exchanges in the U.S who explicitly do not welcome dividend-tokens, would list SPECTRE's utility-token.

As for the regulation of blockchain based financial trading platforms, major jurisdictions are still forming their official regulatory framework, guidelines and acts which will govern financial technology platforms on blockchains such as Ethereum. This process could take years and we do not believe that waiting until regulation 'catches up' is the wise option. After having carefully evaluated the domicile and regulatory license implications and costs of the following jurisdictions; Switzerland, Singapore, United Kingdom, Estonia, Gibraltar, BVI, Cayman, Cyprus, Malta and Vanuatu, we have decided to incorporate in BVI to conduct the ICO and perform SPECTRE operations without intervention or risk of shut-down. A license will be filed for immediately after the raise (with an estimated grant period of 12 weeks) such that when SPECTRE's platform comes out of beta in early 2018, it is fully regulated. As mentioned earlier, the long-term intention is to obtain a regulatory investment and dealing license in an EU jurisdiction or preferably with the FCA, UK and therefore as and when a proper regulatory framework for blockchain-based financial trading platform governance is ready, SPECTRE's team will apply for this and 'on-shore' SPECTREs operations.

While the SPECTRE token pre and public sale along with the platform, will not be open to U.S citizens, once the group has secured an FCA license, it will attempt to open a discussion with the SEC of the U.S such that like NADEX, it can obtain CFTC based financial regulation and open the tokens and platform for U.S investors as well.

▶ RISKS

While the management team takes all measures to reduce risk to a minimum, the following risks can impact the long-term viability of SPECTRE:

- ▶ A very small SPECTRE balance sheet (under \$200,000) owing to an under-subscribed ICO, could result in trade caps and trade volume caps being placed and slower user adoption and growth of the liquidity pool.
- ▶ While highly improbable, sustained high win-rates by traders en masse, could deplete liquidity to an extent such that trade caps and trade volume caps need to be activated, to ensure SPECTRE's balance sheet is protected. This has no direct impact on tokens, only that special dividends won't be paid until it starts to grow again up and above the pre-set threshold targets.
- ▶ While Ethereum's smart contract features are well suited for SPECTRE's balance sheet dividend pay-out model, viral growth in the platform could mean millions of transactions being processed on the public blockchain. This may result in delays to transaction processing (not trade outcomes, however, as this is based on trade entry and exit time stamps). Should this become a significant issue, the management along with token holders may decide on migrating to an Ethereum based side-chain in order to ensure smooth continuity of transactions.
- ▶ While prior to ICO, SPECTRE's entire code will be subject to multiple audits by reputable blockchain code auditors (and findings published on the website), errors may be overlooked resulting in system crashes and downtime.
- ▶ SPECTRE significantly disrupts a large digital options and FX industry, rendering a lot of its platform providers and brokers irrelevant. This could result in competition driven DDOS attacks and smear campaigns. While the management will invest in state-of-the-art DDOS cloud-flare protection services to mitigate these attacks, there is always a risk that downtime could occur.
- ▶ SPECTRE's liquidity pool and trades are denominated in the Ether (ETH) currency. A sharp drop or rise in the value of ETH, relative to fiat currencies, could increase or decrease returns for traders on a currency translation basis. To mitigate against this, the SPECTRE management team will hold backup liquidity (as part of

the primary liquidity pool) in U.S Dollar denominations in escrow accounts to ensure the value of the liquidity pool is protected against heavy gyrations in the price of Ethereum. As for FX translation risk on the trader's side, frequent withdrawals can 'lock-in' favourable exchange rates, to a certain degree. Finally, the group will explore accessing APIs of services such as Tether (built on the OMNI protocol) to allow for fiat-currency denominated trading.

► SOURCES

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¹⁰ Blue Sky Binary (www.blueskybinary.com) & Techfinancials UK Stock Market Listing Prospectus <https://group.techfinancials.com/wp-content/uploads/2015/03/234322-Topaz-CL-9-March-2015.pdf>