

2018

Social Finance Crypto Instrument



GROWTH IMPACT BOND 2.0

CCEG Blockchain UN Lab

Seratio Whitepaper 9.0

2/6/2018

Social Finance Crypto Instrument

Seratio Whitepaper 9.0: Growth Impact Bond 2.0

Growth Token is part of CCEG's SERATIO® family of Blockchain solutions

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Preceding white papers¹

Seratio Blockchain 1.0: Currency of Intangible Non-Financial Value

Seratio Blockchain 2.0: Values Based Impact Interventions

Seratio Blockchain 3.0: Proof-of-Impact Transaction Platform

Seratio Blockchain 4.0: Platform for Non-Financial Enterprise Solutions

Seratio Blockchain 5.0 Decentralised Learning Ledger

Seratio Blockchain 6.0: Initial Coin Offering

Seratio Blockchain 7.0: The Microshare

Seratio Blockchain 8.0: Women's Coin

Seratio Blockchain 9.0: Social Finance Crypto Instrument

Growth Token: 10xgrowthtoken.io

Seratio Coins ICO Platform: www.seratio-coins.world

CCEG Think Tank: www.cceg.org.uk

CCEG Blockchain UN Lab: <http://mypad.northampton.ac.uk/cccg>

[Seratio Whitepaper 9.15]

6th February 2018

¹ <https://github.com/seratio/whitepaper>

1 Social Impact Bond

1.1 The Decline

The Social Impact Bond (SIB) is a financial bet on a social outcome. Lauded as a panacea of social finance, the market is on the decline with now widespread reporting of the failure of the instrument.

“Six years of global SIB practice suggests a mixed track record. Some fears about the effect of SIBs on the balance of service provision appear to be overblown, especially as SIBs generally fund voluntary sector organizations, not private companies. Furthermore, there is scant evidence of “cherry picking” or litigation. On the other hand, SIBs do not live up to many of their purported benefits. SIBs are amenable to collaborative governance; however, it remains unclear whether they are net cost-reducing in light of rates of return, which remain highly variable, and transaction costs, which are often uncouned. Moreover, SIBs have often not funded innovative interventions and less than one quarter of SIB projects entail full financial risk transfer.” (6 February 2017) ²

“SIBs are unlikely to spread far ... given the complexity of evaluating their success, scaling them up into a big asset class will be difficult. Given these risks, SIBs may never reach the heights of popularity once enjoyed by war bonds.” (3 August 2017) ³

“A study suggests that social impact bonds, which use private investment to finance social services and programmes, are ‘costing much more than they save and restricting the freedom of charities to improve social outcomes for vulnerable groups’.” (10 August 2017) ⁴

This whitepaper is not a critique of SIB's which were a brave and early attempt to combine public, private, civil society for the benefit of the community. Such blended solutions were amongst a myriad of market responses to the 'Big Society' type agenda. Since the global financial collapse of 2008, as public sector funds recede we are increasingly looking to the private sector to fund services to the community through civil society agenda. Instruments such as Social Value Act 2012 (UK), 2% CSR Law (India, Indonesia, Mauritius) and SIB's are typical of market responses to fill the resource gap. Blended solutions are, however, notoriously difficult primarily due to the conflicts between the sectors and operational motivations. We intend to expose the points of structural failure of SIB's and to devise a revised version involving the latest financial instruments within the burgeoning blockchain and cryptocurrency sectors that provide the tokenisation of both financial and non-financial value and ways to make one contingent on the other.

² <https://thephilanthropist.ca/2017/02/social-impact-bonds-reflecting-on-emerging-global-practice/>

³ <https://www.economist.com/news/britain/21725793-early-success-may-not-lead-kind-investment-spreading-far-britain-pioneer-when>

⁴ <https://govinsider.asia/digital-gov/are-social-impact-bonds-really-effective/>

1.2 Structural Issues of SIB's

There are many reasons why SIB's are now in decline and no longer the darling of the social finance industry. It wasn't for the lack of trying or interest but primarily structural.

- **NO VALUES:** The value sets of public, private, civil society and community are not aligned and any blend is a compromise unsatisfactory to ever actor. The social gain is not enough, and the profits languish at the bottom end of opportunity. In a nutshell, money is agnostic to values.
- **NO METRICS:** We know how to measure negative impact, but the science of positive impact is nascent without consensus. Former UK Prime Minister Gordon Brown states "The key to unlocking social progress is accurate impact measurement – including the benefits of prevention – and converting social gains into a financial return capable of attracting investment from capital markets."⁵
- **NO INTERMEDIARIES:** Governance, holding the ring in a mutli-stakeholder environment, is fraught with problems and only the brave enter resulting in ... "it appears that a genuine market in intermediaries is currently lacking."⁶ Even when seed funded by government, they close due to risk aversion.⁷
- **NO MARKET:** Anything of worth invariably ends up with a marketplace. Against a natural organically created market which demonstrates appetite, calls are now aiming to prop up a failing paradigm by asking for government to create it. There are no buyers nor sellers of SIB's – there is no marketplace.⁸ No commoditisation exists of the SIB market.
- **NO SCALE:** The Third Sector who is designated as their gatekeepers are invariably small and do not have the asset base to pass SIB due diligence, nor the scale to survive until performance is achieved before payment. The result is that many SIB's still pay up to 90% of the funds to the NGO before proving any impact has been achieved, or the usual suspects bid for the contracts eg. Birmingham UK£ 35m Children's Social Services Bond had bidders Group4 (security), Serco (infrastructure), Amey (roads), Carillion bid (construction) and A4E (government outsourcing). The NGO's with the skills to make the impact are unable to have the scale, and the corporates who have the asset base have no social frameworks.
- **NO RETAIL:** SIB's are devised with the values of the community but they are surprisingly lacking in proposals. Investors are corporates, institutions or governments. Unlike Crowd Funding, the consumer who has alignment to the community being provided for has no seat at the table.

⁵ <https://www.fnlonon.com/articles/why-sir-ronald-cohen-deserves-the-nobel-peace-prize-20170801>

⁶ <http://blogs.lshmt.ac.uk/piru/2017/04/21/social-impact-bonds-offer-challenges-and-opportunities-in-health-and-social-care/>

⁷ <https://www.civilsociety.co.uk/news/social-investor-goes-bust-over-lack-of-interest-in-social-impact-bonds.html>

⁸ <https://www.civilsociety.co.uk/news/social-investor-goes-bust-over-lack-of-interest-in-social-impact-bonds.html>

1.3 A Blockchain Solution

Blockchain has capability and relevance to SIB's, namely in the way it deals with structural impediments. Previous whitepapers deal with such functionality but in summary:

- ✓ **VALUES:** The Seratio cryptocurrency defines value with values. It also means an SIB 2.0 solution does not have to involve public sector solutions only but address a wider society malaise.
- ✓ **METRICS:** The Social Earnings Ratio® (S/E Ratio) is the world's fastest adopted impact metric and its perfectly utilised in smart contracts enabling transactions contingent on smart contracts.
- ✓ **INTERMEDIARIES:** Blockchain does away with the need for intermediaries. The DAO (distributed autonomous organisation) is an example of how this can be taken further.
- ✓ **MARKET:** Tokenisation allows for a primary and secondary exchange markets to be established and already a plethora of such exchanges exist worldwide.
- ✓ **SCALE:** Initial Coin Offerings (ICO) can range from US\$ 35,000⁹ to US\$ 700 million each.¹⁰ Compare this with SIB's where the entire market cap for all SIB's together is only UK£ 2-300m.
- ✓ **RETAIL:** The ICO market is predominantly individual investors in a global b2c play that has captured the imagination of investors in a way SIB's never did, with the majority subscribing to a wider social mission.

With a deflating SIB market, and a burgeoning ICO market, it seems inevitable to transfer the goals and ideology of the former to the success and momentum of the latter. Blockchain lends itself to the development of a new and unique SIB 2.0 solution – here called the Growth Impact Bond (GIB). Later in this whitepaper we aim to develop both a regulatory compliant structural flow, as well as a cash flow model, in order to test the market early. Lastly, we illustrate the usage of this new instrument through a Social Enterprise illustrating how 'growing' social impact will lead to a greater RoI in real terms not just a good feeling. This key ability to convert social impact into financial reward for the investor helps to align agendas.

⁹ <https://www.startupgrind.com/blog/the-biggest-initial-coin-offerings-ico-of-2017/>

¹⁰ <http://www.businessinsider.com/biggest-cryptocurrency-ico-ever-going-on-right-now-2017-12?IR=T>

2 Growth Impact Bond

First, let us expand the notion of total wealth creation to encompass both tangible and intangible value but based on a common financial denominator so they can transfer between the two seamlessly.

$$\text{TOTAL VALUE} = \text{FINANCIAL VALUE (\$)} + \text{NON-FINANCIAL VALUE (\$^+)}$$

The ratio between the financial and non-financial value can be empirically derived through the S/E Ratio. The Social Earnings Ratio metric does 3 things:

- (i) Digitizes non-financial value so it can transact through the blockchain
- (ii) Turns sentiment into financial value so non-financial value is pari-pasu with tangible value
- (iii) Does it using Fast Data to allow it to be used in cryptocurrency

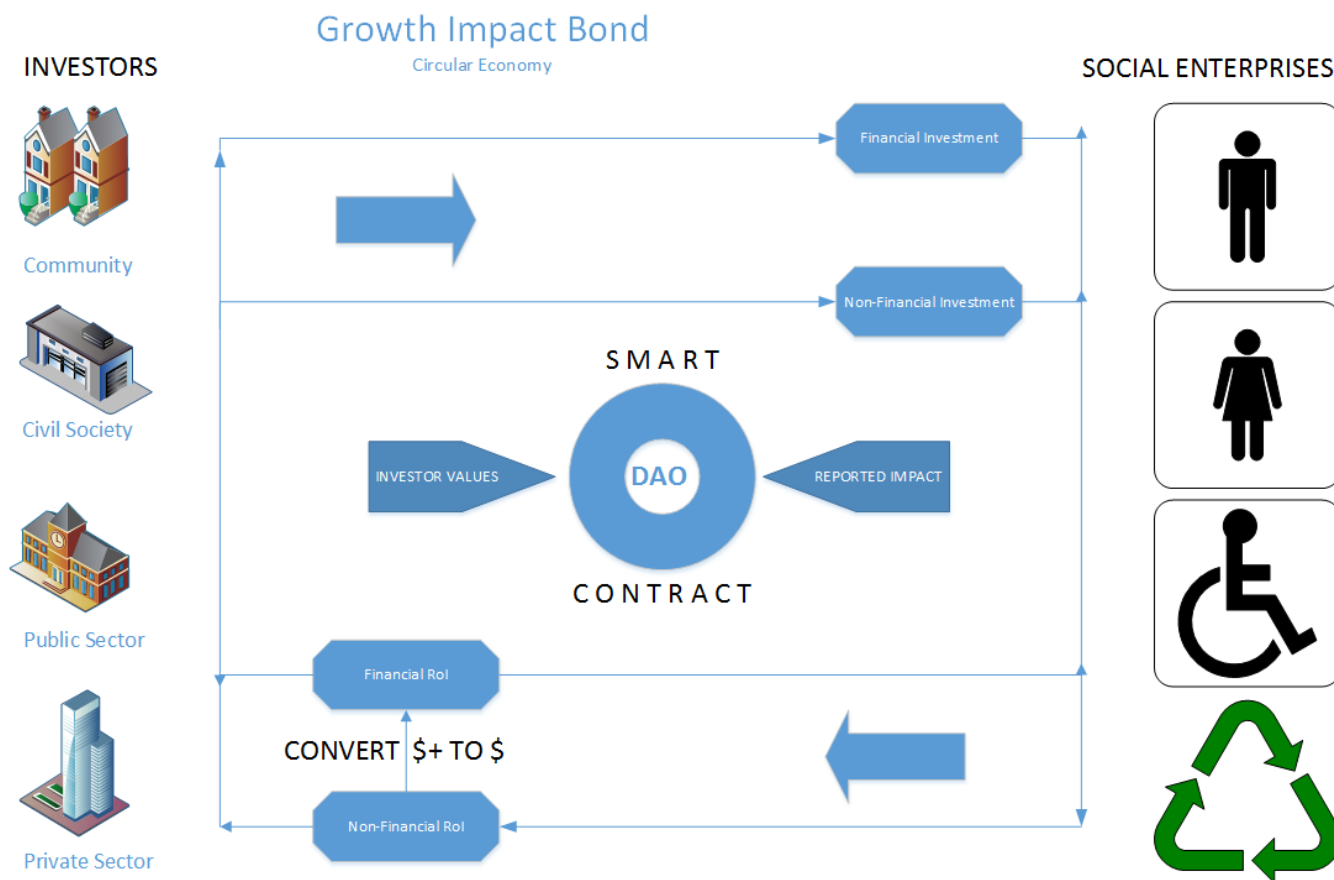
This allows for the following kind of attributes to be set for a GIB.

- Desired Total Value eg. 10x Total Growth Return
- Minimum Financial Value \$
- Minimum Non-Financial Value \$⁺
- Set S/E Ratio (\$⁺/\$) targeted

Furthermore, and more germane, we can transfer between \$⁺ and \$ and vice versa to provide greater return to the investor depending on the social impact performance. Turning non-financial value into financial value via tokenisation is a great asset for the Growth Impact Bond.

Another key feature of this is the Smart Contract which can make investments contingent on impact automatically without an intermediary. This allows the setting up of an impact exchange to match the value set of the investors with the impact output reported by the social enterprise. This produces a circular economy bringing in all stakeholders, small and big, at play without the risk profile associated with SIB's. In particular this structure allows each entity to be true to their values and does not focus on a blended or mixed value set solution which was the Achilles heel of the SIB marketplace.

As a first step, however, this kind of automated exchange is too ambitious to aim for due to the regulatory requirements, the oversight required, and the volatility of token economics – all of which combine to undermine confidence in such a bond. In the remainder of this whitepaper we will focus on the structural requirements of a GIB 1.0 version of the same using traditional but yet separate companies which mimic the performance of a DAO but managed and should therefore result in the same outcomes.



2.1 Background to a Social Finance Crypto Instrument

The fast paced growth of new and existing crypto currencies further fuelled by media attention and institutional investment is creating public awareness in the crypto currency arena. Against a backdrop of low interest rate returns for more than a decade, the crypto markets offer a potentially exciting proposition.

The risks of investment into the crypto space however remain high. Operating largely unregulated, consumer protection is not in-line with most classes of investment. In addition, the very real risk of cyber security, hacking and the total loss of funds requires very careful management and the best in class security measures must be in place to safeguard these digital assets.

The creation of a new social finance crypto instrument has to deliver:

- The ability to participate in tax efficient incentives such as SEIS/EIS in the UK.
- A return on investment – paid quarterly, half yearly or annually
- Tokenisation of key assets – a link to real assets
- Spread of risk in the crypto-markets

Assets need to be retained at corporate level and utilised to optimise return for investors. The proposition has to be fully repeatable. A fund should be established to hold crypto currencies, complete a social objective and produce an attractive return for investors. The return has three elements:

- (1) a cash return as a share of the uplift in the values of a financial crypto-currencies fund held,
- (2) an uplift in the award of further non-financial value tokens as the delivery of the value of the social enterprise rises each year, and
- (3) a tax incentive under the Seed Enterprise Investment Scheme / Enterprise Investment Scheme providing qualifying criteria are met

2.2 How it Would Work

A 'fund raise' of several million is initially targeted, offering consumers a foothold into the crypto-markets. Tokens will be sold by a platform provider to newco, for now called Impact Investment SPV (IISPV). IISPV will hold the financial tokens on behalf of Investors.

Further Crypto Currencies and ICO Alt-Coins will be purchased and managed on behalf of Investors. IISPV will hold the basket of currencies utilising the services of an independent exchange services with an aim to optimise a regular return for investors quarterly / half yearly or annually; naturally this would be dependent upon an increasing cryptocurrency market capitalisation. The exchange service will need to be a regulated entity with all the appropriate licenses.

A self-sustaining social enterprise will manage and maintain a tangible asset. The Social Value created each year will be transferred to non-financial tokens and allocated to existing non-financial token holders. To be clear, the social impact has thus been tokenised. The initial non-financial issue will be the tokenised share of the asset portfolio and are the representation of the social value created by setting up the social enterprise. These non-financial tokens are assigned to individual investors to represent their holding due to their investment. All other assets are held at corporate level.

2.3 The Tokens

For this to work we suggest a two token system.

(i) The Financial token – a digital token which has financial utility and is fully tradable via an external exchange. These tokens will be in the New Co and exchanged as part of the wider basket of Crypto-Currencies.

(ii) The Non-Financial token – a digital token which is attributed to an individual proposition and derives its value as a representation or, the tokenisation of that value. In this case. It will be the

tokenisation of the assets and will be the representation of the social value created by the social enterprise. The use of non-financial tokens allows transfer of ownership of the non-financial interest in the social enterprise. This can be performed independently of the central organisation – i.e. to sell or transfer the non-financial assets.

Both tokens will be fully independent of each other.

2.4 Responsibilities and Compliance

A not-for-profit foundation will be responsible for:

- The sale of financial tokens and allocation to Investment SPV
- The allocation of non-financial tokens and wallets to individual investors
- Compliance with AML/KYC/CTF
- The application of all non-financial value measurement and metrics

Distribution of funds to

- The Social Enterprise for new development of Social business
- The Investment SPV for Marketing Fees
- The Investment SPV /Exchange Services for crypto-basket currency management
- The Exchange Services for management fees for the first year

The Exchange Services will be responsible for:

- Compliance with investment trading regulations and licenses.
- Reporting of Crypto-Currency Basket and producing suitable reporting for non-financial token holders
- Recommending buy/hold/sell strategy to Investment SPV to achieve a balanced portfolio of risk and reward.
- Executing the policy and strategy dictated by Investment SPV as owners of the Crypto-Currency Basket

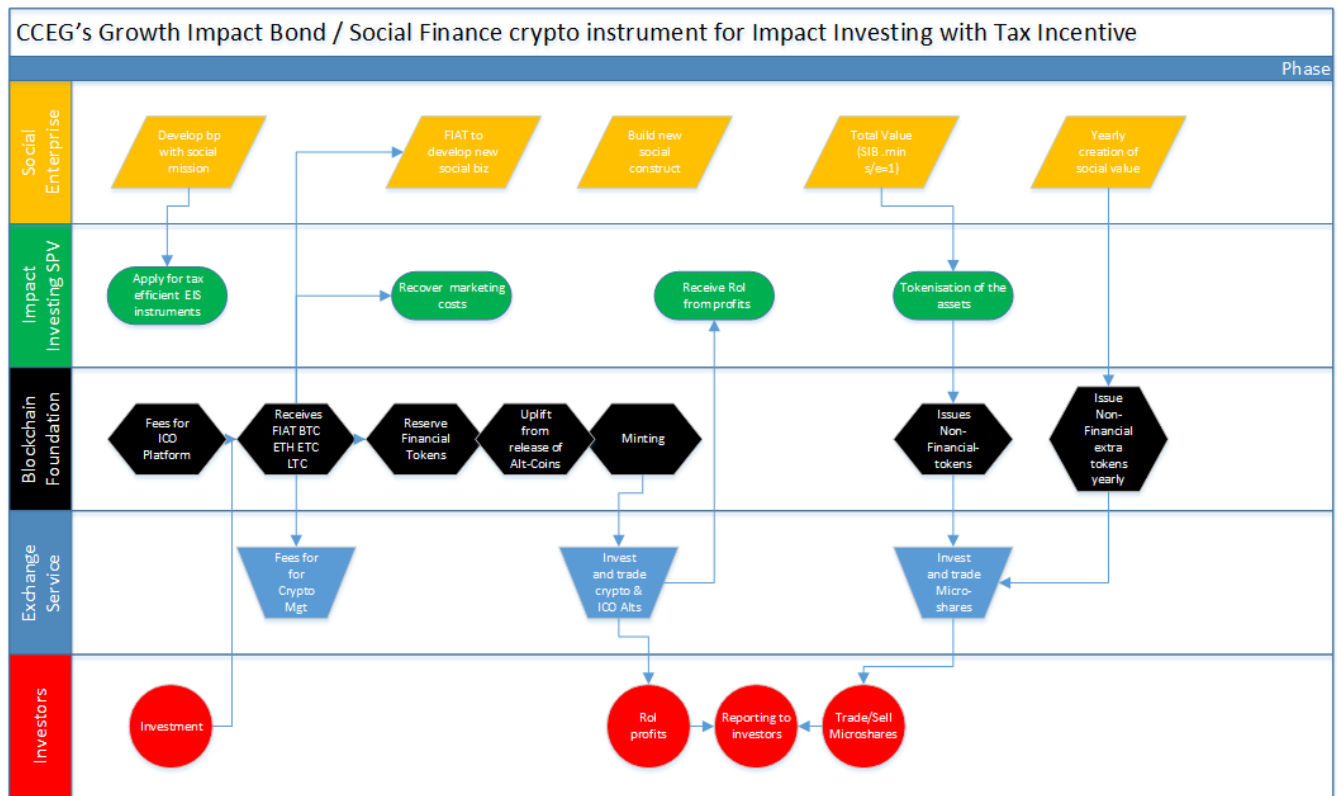
The Investment SPV will be responsible for:

- Ownership of the Crypto-currency Basket
- The strategy for management of the portfolio of Crypto-currency Basket
- All marketing and social media of the Social Finance Crypto Instrument
- Any SIB strategy, if applicable.

The Social Enterprise will be responsible for:

- Delivering the Social Impact
- Tax incentive compliance and allocation (if applicable)

The non-financial tokenised approach allowing funds to be deposited and allocation to be given together with an option which may later be exchanged for loyalty, discounts, votes, shares, etc or other token swaps. This has to be done carefully to ensure the non-financial token is not considered to be a security.



3 GIB 1.0 Implementation Phase

The Centre for Citizenship Enterprise and Governance, 'CCEG', is a not-for-profit think tank which specialises in the measurement, movement and trading of non-financial value. CCEG has expertise in crypto currency creation, crypto-market analysis and crypto trading and has built a ready-made crypto platform (www.seratio-coins.world) available for structured investment. CCEG also owns a premium brand Rothbadi & Co (www.rothbadi.com) headquartered in Zurich for Institutional Blockchain Consultancy and Advisory, as well as a large team within a [Blockchain UN Lab](#), and heads up a large university consortium in the space (www.cyberfutures.net). CCEG has moved from designing a proof-of-concept to implementation in the GIB.

CCEG already runs a two token system on its Seratio platform with a successful Initial Coin Offering (ICO) in the UK in October 2017 – the first. It consists of:

- a) SER financial token based on ETH (ERC20) exchangeable on regulated exchanges eg. Cryptos
- b) Microshare of non-financial token based on ETC

We have designed a system to put the above design into practice in January 2018.

3.1 The Investment Mechanics

- (i) The generated SER tokens are derived from investment at www.seratio-coins.world. CCEG has c. 20 commissions for tokens based on this financial/non-financial platform, some scheduled for release in February 2018 including www.womenscoin.com and www.studentcoin.uk. Other tokens include www.cityblockcha.in, Black Value Coin, EduCoin, etc.
- (ii) CCEG intend to call this commission a Growth Token. CCEG has been independently commissioned by a wholly separate organisation and marketed as 10 x Growth Token which captures both the tangible financial aspect and the intangible non-financial aspect of the offer aiming to deliver a total 10x total value growth in a combined economic and social value. The marketing company will only promote this to "Experienced Investors".¹¹ It is worth noting, however, that this is not a regulated product in the UK and therefore the operational entities are not regulated organisations. Currently the FCA has stated that cryptocurrencies are not a regulated product in the UK but we hope this will change in the future.

¹¹ <https://www.prospectus.com/private-placement-memorandum-services-information/experienced-investors/>



- (iii) The cash is distributed, and the SER tokens are transferred to the ownership of IISPV into a cold wallet. IISPV will utilise the skills and experience of Rothbadi & Co to manage and transact the fund. Rothbadi has qualified staff in Switzerland. From a regulatory standpoint our staff have all required qualifications to manage OPM (other people's money) from FINMA. Naturally this service is domiciled in Switzerland.
- (iv) Rothbadi will exchange the SER tokens into an agreed initial collective profile depending on market conditions and performance trends for each coin in the last 30 days (each with dedicated cold wallets).
 - a. BTC
 - b. ETH
 - c. ETC
 - d. LTC
 - e. Other mainstream Alt-Coins eg. Neo
 - f. Remaining left in SER
- (v) February to April 2018
 - a. No trading out of the above profile will be made for 3 months unless there is a market crash in a particular currency.
 - b. At present we do not intend to devise a risk profile menu to present to investors but in future we will which can be matched against investor profile.
- (vi) May 2018
 - a. Trading starts
 - b. Microshares issued to individual investor Wallets
 - c. Reporting back to account holders on a quarterly basis (first report 1st August 2018)
- (vii) Trading

Whilst everything CCEG does is open source for reasons of commercial confidentiality of client funds and to enable advantage to be gained from fluctuations in market conditions to be it is not appropriate

to provide exact detail on how the fund will be managed except to say it is being carried out by professional qualified staff with significant experience. Reporting will be carried out monthly and quarterly.

(viii) May 2019

There will be a lock-in period of 12 months to smooth out volatility. On 30th April 2019 funds will be available for withdrawal, partial withdrawal or remain fully invested.

3.2 Golgotharism Social Enterprise

For the purpose of this implementation, we have chosen to create a social enterprise that fulfils the essence of social impact both the spirit and the letter of the law; in future we will scale this implementation to pre-existing social enterprises. The Golgotharism Foundation is a social enterprise dedicated to help artists including poets, writers, dancers, actors, musicians and all those dedicated to creativity, to inspire others through their unique interpretation of reality. Often operating at the twilight between illusion and delusion, these artists battle the stigma of mental health to expose the mainstream with their often radical ideology whilst bringing coherence to their own lives. The Golgotharism Foundation (GF) intends to build sustainable and scalable structures to support their lives and their mission.

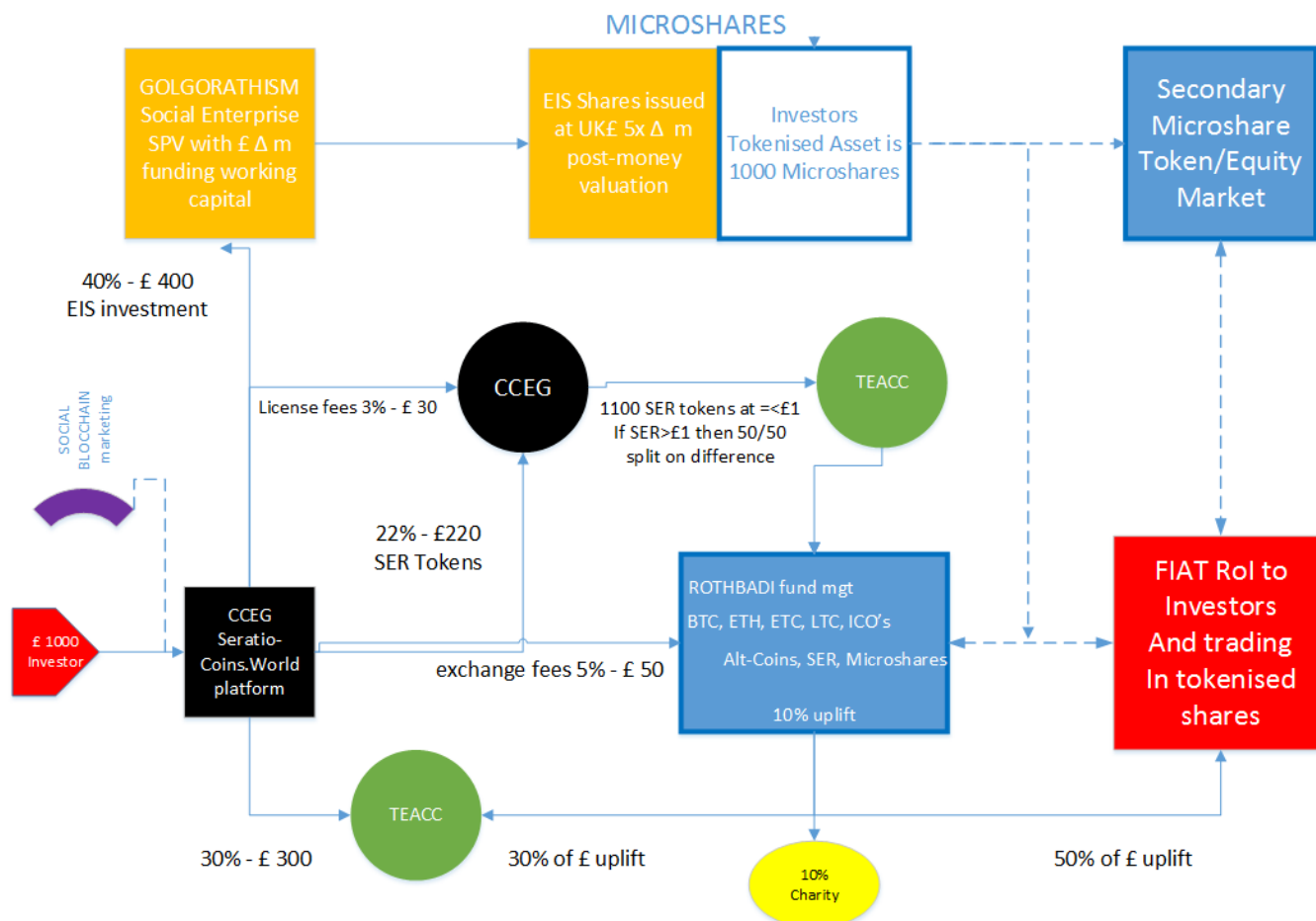
We all know about historical figures like Goya, van Gogh, Gauguin, Munch, Beethoven ... but of course modern versions exist in Cobain, Williams, Winehouse, and most recently Bennington. Even local to the [Centre for Citizenship, Enterprise and Governance](#) (CCEG), Northamptonshire's [John Clare](#) changed the landscape of poetry, and our very own Artist in Residence who originated the concept behind [Golgotharism](#).

The first project is to develop a shared studio space where each participating artist (interpreted in the broadest terms) has not only their own exclusive space but also a much larger area to exhibit or showcase their work whether in terms of an installation, gallery, performance, etc. Opportunities for collaboration in a creative environment will be encouraged. The artists will live in individual houses with independent living aided by supported living tailored to their individual needs.

For too long artists who cross the line of how society categorises at them in the spectrum between genius and madness have struggled to articulate themselves, often becoming victims of substance abuse, alcoholism or shoved into rehab. This is a social enterprise that endeavours to replace The Priory by using property rental to create a wholesome environment where all stakeholders benefit from a more loving, accepting, co-existing environment within the communities of both artists and the public.

This is a creative, organically growing project to adapt Social Impact Bonds to a more successful model by utilising the interest in blockchain and crypto-markets to deliver scalable and sustainable solutions to communities all around the world. We have thought long and hard, and taken the best advice

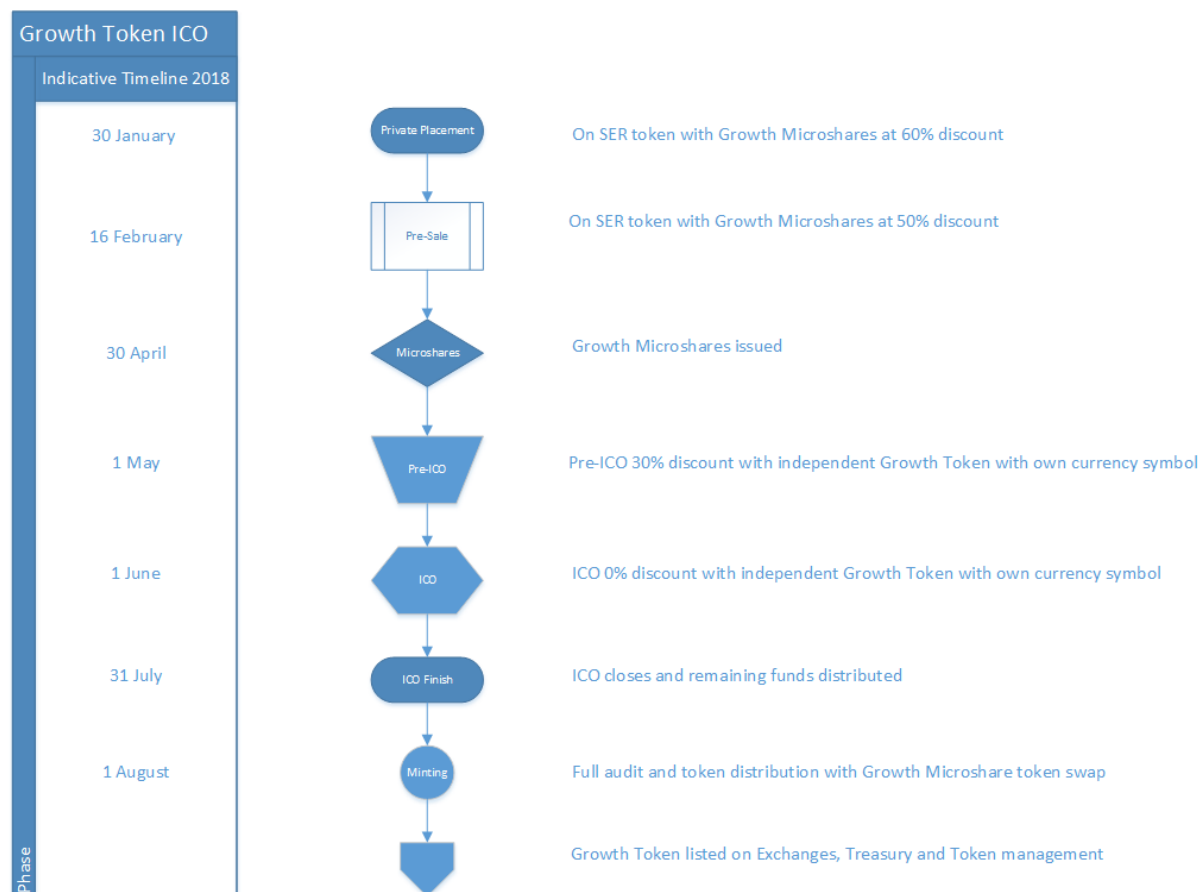
possible to deliver this solution of a Growth Impact Bond to the market with the belief that it will be refined further in future iterations.



4 Plans for Future Scaling of GIB's

If the implementation of the Growth Token goes to plan then one can well imagine buoyed by success we move into an Initial Coin Offering (ICO) to fund the development of the instrument and expand internationally the implementation tailored to specific regulatory environments and social needs. This would involve a token swap from current holders of the Growth Token to a future independent token complete with its own exchange symbol and trading in its own rights. Investors of the current round would then be deemed to have a further uplift by typical discounts shown in this diagram plus of course the uplift that follows many ICO's post-release.

At this moment there are no plans to ICO the Growth Token but in that respect it is unusual as all other Seratio based tokens are in that process. Whilst the Growth Token itself may only market to “Experienced Investor”¹² – a term long established and now used in many countries especially Gibraltar – an ICO may be marketed to the general public and thus brings in the hearts and minds of the community to drive initiative forward.



The above is a typical timescale of an ICO including private placement should the process be integrated in 2018 Growth Token business plan, and thus is only indicative at this stage.

¹² <http://www.financial-ombudsman.org.uk/publications/ombudsman-news/48/investor-experienced.htm>

5 Background Information



Information on the open source Social Earnings Ratio® (Creative Commons, 2011) may be found at the Open Source not-for-profit Think Tank, Centre for Citizenship, Enterprise and Governance (www.cceg.org.uk) which focuses on Movement of Value. CCEG has received over 100 commissions, shown at www.socialearningsratio.com and operates 10+ SaaS platforms through the trading arm Seratio Limited (www.seratio.com). CCEG has over 92,000 members including 7,000 heads C-Suite Executives of the world's largest companies and 2000 politicians. Members receive the journal Social Value & Intangibles Review <https://issuu.com/seratio>. CCEG has founded the IoV Blockchain Alliance for Good (Bisgit.ioV) at www.bisgit.org, as well as the [CCEG Blockchain UN Lab](#). CCEG and Seratio are spin-outs from the University of Northampton both adhering to the [Blockchain Manifesto](#). Other divisions are CyberFutures (www.cyberfutures.net), the newly acquired Efficiency Exchange (www.efficiencyexchange.ac.uk) and a Institutional Blockchain Consultancy and Advsiory (www.rothbadi.com). CCEG conducted a successful Initial Coin Offering (ICO) in September-October 2017 at www.seratio-coins.world

WHITEPAPER SCHEDULE

Updates are available at: <https://github.com/seratio/whitepaper>

- 1.0 Currency of Intangible Non-Financial Value (October 2016)
- 2.0 Values Based Impact Interventions (December 2016)
- 3.0 Impacting With Value: Capture-Translate-Transact-Report (February 2017)
- 4.0 Seratio Platform Architecture (March 2017)
- 5.0 The Blockchain Educational Passport (April 2017)
- 6.0 Seratio Initial Coin Offering (August 2017)
- 7.0 The Microshare (October 2017)
- 8.0 Women's Coin (November 2017)
- 9.0 Growth Token (February 2018)

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