

# Questionnaire - SendGold

## Questionnaire

a. General

i. **Which blockchain / DLT are you building on top of?**

SendGold is a peer-to-peer gold ownership and payment gateway platform that is currently live in 11 countries including India, China and the US, home to over 45% of the globe's population. Our Gold-as-a-Service architecture is both channel-agnostic (blockchain and non-blockchain) and chain-agnostic. We use our APIs to serve business customers today, including the world's largest cloud-based loyalty program, serving blue chip customers around the world. We put an early live version on the Ripple network and currently are live on EOS (token is not yet listed). In addition, we are working with two "blockchain 3.0" platforms that address speed, throughput, and smart contract security in ways that greatly enhance commercial application and security protections over existing platform capabilities.

ii. **How does the stablecoin work?**

Our customers are outright individual owners of physical gold bullion stored in high-security vaults, audited by Bureau Veritas, and insured by Lloyd's of London. Transactions are available in any amount and tokens will be liquid for peer-to-peer transfers, purchases and redemptions across the fiat/crypto interface. SendGold has full banking integration, allowing our customers to currently redeem directly to bank accounts in 140 currencies in 192 countries. Fully-owned physical gold bullion, since it has no counterparty, receives favourable regulatory treatment, legal certainty, and banking system access. We are leveraging

these factors to make transactional digital gold highly accessible across a variety of use cases and platforms across large, high-growth sectors.

**iii. What is the purpose of your coin? What does it aim to achieve, and which problems does it solve?**

Gold has served as “mankind’s stablecoin” for centuries because its value has reliably kept pace with the rise in real-world costs of goods and services. Its value is entirely independent of banks and governments.

The supply of gold is fixed in nature, not governed by new algorithms. This supply (the sum total of all above-ground gold) could fit inside two Olympic-sized swimming pools, and according to the U.S.G.S. the world’s total remaining mineable gold is less than one additional swimming pool’s volume. Mining has added 1.6-2% per year to supply but most mines are in production decline and according to Goldman Sachs the world reached “peak gold” in 2015. This combination of characteristics has meant that gold is universally accepted and prized by everyone from housewives in India to the world’s largest central banks as the ultimate store of value. Our aim is to make it a simple and effective means of exchange across both blockchain and non-blockchain channels.

The SendGold platform digitizes physical gold bullion so it is accessible to a variety of transactional environments. We have deals signed to embed gold inside mobile gaming platforms in-line with game play, for a mainland China financial platform, and are working on additional distribution deals in e-wallets and messaging (some of these B2B customers are not commercially and legally ready to accept a pure blockchain solution). What unites our blockchain and non-blockchain initiatives is the common problem they solve: the need for a stable store of value, that preserves purchasing power better than local currencies, and that is also a useful and fast medium of exchange with effective interoperability with national bank currencies and payments rails.

**iv. When we say something is stable what do you think it means? And when it comes to monetary policy specifically?**

We think “stability” in this context has three main components. The first is relative intraday price stability so the token has sufficient price certainty to be useful for daily transactions. The second is medium and long-term value stability so that holders do not see their purchasing power eroded over time. The third (often overlooked) is stability of the legal ownership claim to the asset in question. We believe that ongoing changes to global and national legal and regulatory definitions of new algorithmic asset types (is it a security, is it a currency, who can own it, in what countries, how and where is it taxed) can have a large and unknown impact on token usability and stability.

From a monetary policy point of view, gold has already survived every monetary policy experiment tried by governments down through the ages. From a policy point of view we believe the Austrian School best describes the functions (and dysfunctions) of money: that people build real wealth with deflationary money, as opposed to money that simply inflates away their purchasing power.

**v. What is your revenue model?**

We earn a small margin on gold trading as well as a small capped variable transaction fee. We have a sophisticated pricing model to support various strategies as required.

**b. Launch & marketing**

**i. What does the market need to be confident in the stability of your token?**

**ii. How are you bootstrapping to that level of confidence?**

The market has confidence in the stability of gold as a universal store of value and this confidence is reflected in its price. Our objective is to remain as transparent as possible to the outright ownership and price of this top-quality investment asset. We are building trust with not only the stability of our coin, but across our business. For example, we have been deliberate in domiciling in Australia, with some of the strongest property rights in the world, very strict financial regulatory controls that are respected around the

region, and strong consumer protections and guarantees. Australia is also the world's second-largest producer of gold.

**iii. What are your go-to-market strategies?**

Our company-wide strategic focus is our adoption imperative, driven initially by accessibility, user experience and targeted use case demand across large, selected markets, and is further fuelled by an adoption reward capability. Our channel/chain-agnostic approach provides key synergies across the fiat/crypto border. We have begun to drive transaction volume through specific use cases across rewards, gaming, remittances and gifting. In some cases DLTs are relevant; in others they are not. We are commercially-driven vs technology-driven. While “buy-and-hold” and price speculation are valid blockchain business drivers we see even greater promise in the real-world transactional use cases that have so far eluded DLT providers.

**c. Economics**

**i. What is your coin stable with respect to?**

Given our token is based on direct ownership, users are buying, sending and selling gold itself based on a live gold price. It is not “stable with respect to a gold peg”; it IS gold. We are not “PayPal for gold”, and ours is not “a promise to pay gold later”. We think this is a critical distinction, as other products whose return derives from underlying mechanisms are at high risk of being categorized as “securities”, with high potential adverse impacts on their usability. The price of gold has shown remarkable stability with respect to the real-world cost of goods and services over time. Famously in ancient Rome a good-quality men's outfit cost one ounce of gold, and today one ounce of gold is worth +/- \$1200, which is still the price of a good-quality men's outfit. We think this is the highest purpose of money: to preserve buying power reliably over time. Numerous “crypto gold” initiatives have been and are being launched. It is our understanding that only a small subset of these (including SendGold) represent actual direct individual ownership of metal that will accurately reflect global gold prices on an ongoing basis (without demurrage or other price/quantity adjustments).

**ii. How much volatility can this peg withstand? Is that the same for upwards and downwards pressure? How wide is the band of behavior it can support?**

The price volatility of an asset tends to be a function of the depth of trading and the breadth of ownership of the asset. We think these are key advantages of gold and are key unanswered questions for algorithmic assets of all kinds, especially for new algorithmic assets that are collateralized by other new algorithmic assets. Gold trades globally in daily volumes that exceed the entire S&P 500 (\$200B per day). This depth of trading means that prices are discovered by the daily supply and demand and risk preferences of hundreds of thousands of economic actors. The result is a high confidence in the discovered price at any point in time. The breadth of ownership of gold is also a key advantage. People, businesses, and institutions own gold for a wide variety of commercial, investment, and even cultural and religious reasons. Central banks rely on gold as a key reserve asset as it receives a risk weighting of “0” under Basel III rules. This variety of economic motivations of holders and transactors means that the ownership base of gold is broad.

Regarding different interest rate environments, contrary to conventional belief the gold price is not necessarily adversely affected by interest rate rises. We provided the relevant data to back this up in a recent blog post: [What Happens to Gold Prices When Interest Rates Go Up?](#)

**iii. How easy is it to analyze the band of behavior from which it can recover?**

There is an abundance of historical data on gold's price performance available for stress-testing. This data can be modelled through various economic environments and conditions: war, calamity, or economic crisis.

**iv. How expensive is it to maintain the peg/stability mechanism?**

**1. How transparently can traders observe the true market conditions?**

As mentioned above there is no “peg” as our product is gold itself. Reference gold prices are widely available in every country and almost every currency.

**v. Which monetary theory (theoretical) assumptions do you think are not true and how does your protocol account for that?**

Money stores labor so it can be transported across space and time, and as a result money that took no labor to produce (unbacked debt-based bank currency for example) struggles to store the value of labor effectively. This of course is noticed as the upward drift of “prices” over time, where the numerator “house per \$” or “avocado per \$” or “KwH per \$” appears to go down, when in fact it is the denominator that is going up (more \$ are required for the same good or service). Because gold is rare and has always required extensive labor to produce it has proven its ability to store labor value over time. This was our premise for SendGold.

**vi. Does your stablecoin supply scale in response to demand? If so, how?**

The best estimate of the current market value of gold is \$9.4 trillion so scaling should not be an issue. We are approved for access to the gold markets at the very top of the physical gold supply chain via a Category 1 Ring Dealer at the London Metal Exchange.

We currently access the markets via international wholesale dealers but will implement the new dealing relationship in Q1 2019, providing an even lower price to our global market.

**vii. Who provides the capital to maintain exchange rate peg? How are they compensated / Why do you think they would continue to lock up capital, given other investment opps?**

The capital maintaining the gold price is deployed by a wide variety of investment market participants around the globe. A recent report by Price Waterhouse Coopers ( The Rising Attractiveness of Alternative Assets for Sovereign Wealth Managers April 2018) cites gold’s outperformance of both bonds and equities over the 10- and 20-year time horizons, and we believe capital will continue to be allocated to gold.

**viii. An eventuality plan in case of a “black swan” event.<sup>1,2</sup> The 1% case will happen eventually.**

Gold’s average correlation with the S&P 500 over the last 45 years has been close to zero.

Oxford Economics cites “Our scenario analysis using the Oxford Global Model shows that gold may perform especially strongly in more extreme economic scenarios featuring elevated levels of financial stress. But gold also performs well in our deflation scenario, where very high levels of financial stress cause a flight to safe assets. As such, gold’s potential role as ‘risk insurance’ in a balanced investment portfolio is clear. Moreover, our optimisation analysis suggests gold’s lack of correlation with other assets means that it has a role to play in reducing the volatility of investment portfolios even in more benign scenarios”.

Full report is available at this link (paywall): [Oxford Economics](#)

**d. Tech**

**i. Are any novel consensus mechanisms used, over and above the underlying blockchain?**

We are working on integrating our gold token as top-quality collateral in an emerging smart contract-based crypto fixed income instrument protocol.

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<sup>1</sup> [https://en.wikipedia.org/wiki/Black\\_swan\\_theory](https://en.wikipedia.org/wiki/Black_swan_theory)

**ii. What transaction throughput can the blockchain currently handle and how does it plan to scale? Do its plans coincide with your plans for your estimated demand?**

We are focused on selected “blockchain 3.0” platforms with architectures that natively support the large transaction throughputs required for effective commerce. Our crypto initiatives began in 2014 and we are only now seeing the levels of institutional security, governance, tokenomics, and throughput required for broad and practical commercial use. We think many questions remain about off-chain scaling solutions (Lightning, Raiden, etc) including ongoing complexity of reliable transaction routing, ongoing legal questions (on whether hash-locked balance proof channels could be classified as “fiduciaries”), and ongoing regulatory questions (for example whether these fulfil the global AML regulatory definition of “layering”). We have preferred to concentrate on chains that address these natively or are built expressly with these considerations in mind.

**iii. What tradeoffs does your protocol make and why did you make those tradeoffs? (supply/demand, temporarily peg breaking) (censorship resistance) (privacy tradeoffs) (accuracy of present market data and ease of manipulation of the data feed protocol uses (responsiveness of market and ease of manipulation)**

Everything we do focuses on speed to market and commercialization through specific application. As such global compliance and banking integration were our business imperatives from day one.

**iv. Are there any centralized components of your system? Would any of these be easy for govts to shut down?**

Asset-based tokens rely on some form of register of asset possession and/or custody, and for physical assets these are unavoidably centralized. It is worth mentioning that 99% of the world’s money is centralized in banks, and the major crypto networks are much less decentralized than is commonly perceived. The right of the individual to own gold protected under Australian’s property laws is enshrined in the Australian Constitution. Given the maturity of the gold market worldwide, and our focus on compliance, we feel it is unlikely a government would change policy that would affect the viability of our platform.

**v. Does your protocol require information outside the blockchain such as a feed of price data? If so, how does this oracle work? Who manages it, what are the incentives for managing it, and what happens if the data they provide has a glitch?**

We interface to the global gold markets through live price feeds from major wholesale dealers. We have mitigated the risk of service interruption through redundancy across several providers and with internal mechanisms that enable us to maintain operations through any external outages.

**vi. Which participants can see which transactions? What is the data and metadata available, and to whom? How does this impact privacy?**

Standard block explorer functions are available that indicate account holdings and movements. Ledger addresses cannot be associated with PII without the user’s permission.

**vii. Are you doing anything with formal verification? Smart contracts used?**

We will submit all contracts for formal verifications and are working with two DLT smart contract security auditors (Hosho and SmartDec). Having said this, we are focused on DLTs where the scope of contract attack vectors is limited by locked-down contract design functions, robust industry-standard software and vulnerability testing tools, and with limited subsets of possible logical execution environments (VMs).

**viii. What is the rebase period? (Length of time between currency adjustments.)**

We currently refresh gold prices every 60 seconds.

**ix. Can we make this automated?**

**1. Do we use a smart contract, or network rules of the blockchain operators?**

Our pricing is automated. We are working with DLTs with block times of less than one second.

e. Regulation

i. **What are your perceptions of local and global regulation in supporting stable coin, asset backed token economies?**

We selected gold in part because the regulatory and legal frameworks governing its ownership and use around the world are entirely settled. The Australian Corporations Act already provides specific advantages to us relative to definitions (and exclusions) from derivatives securities classification.

ii. **What could be done to improve regulation in terms of speed, quality, value for your company?**

We think the ISDA Common Domain Model 1.0 leveraging FpML is a step in the right direction with regard to standardization and believe it and other emerging standards will enable regulators to arrive at common definitions that will help drive token-based asset ownership and transfer systems.

f. Testing

i. **What kind of simulations have you done and what have they helped you learn? (simulating broad array of market conditions)**

1. **Mental models for simulations**
2. **Econometric models**
3. **Agent-based Modelling / Computer simulations**
4. **Other (Please describe)**

Gold price data is widely-available and we have completed extensive stress-testing in order to support our financial risk and gold trading policies. SendGold core technology platform is independently tested by third parties for security and those tests are a part of our ongoing risk management and monitoring.