Creating Wealth:
Capitalizing on
Blockchain Technology
and Tokenized Rubies as
an Asset Class

ROYAL SWISS CREDIT UNIION & CAPITAL TRUST

Whitepaper

Abstract

Rubies, a symbol of passion, prosperity and protection, are unquestionably the most sought after of all the precious gemstones in the world and amongst the most expensive. Diamonds may be forever, but natural, good-quality rubies are more valuable. Gem buyers place this stone at the top of its rank of investments purposes because rubies are rarer and hold their value. In addition, rubies carry a higher market demand better than diamonds or other gemstones.

According to market research analyst Technaviot prediction, the global gems and jewelry market will reach $292 billion by the end of 2019. Colored gemstones are drawing the attention of diamond market investors, and these investors will be rewarded in this prosperous and booming market. International money from the diamond market-valued at $80 billion-is now flooding into colored gemstones.

Historically, gold and silver coins and a variety of precious gemstones have long been used as a means of bartering for goods and services. As an investment, precious gemstones and diamonds are considered to be an investment in a hard asset, just as gold and silver are. Today, in many parts of the world, investments in hard assets like land, gold and gemstones are preferred over stocks, bonds, currency and other soft assets. Because the value of gems has shown to increase at a rate equal or higher than inflation, investors who holds the investments long enough are expected to see a sizable return on their investment. Rubies have demonstrated price stability and long-term appreciation for centuries. All things considered, it is not a surprise that these magnificent gemstones are in high demand amongst many private investors.

The diamond market has grown to reach over $80 billion because the segment has been led by huge, organized companies. Consisting of only a host of niche miners, the colored gemstone market is fractured and unstructured. The colored gemstone market has lacked the resources, organization and structure to take emeralds, rubies and sapphires into the diamond league. In addition, high unit price of rubies has been a barrier that many potential investors could not overcome.

These factors provide a major opportunity for Royal Swiss Credit Union and Capital Trust (the Trust) to capitalize on investor demand by providing a solution that addresses the limitations of this market. The Trust has tokenized (RST100 token) their portfolio of rubies as an asset. Tokenizing an asset is an easy concept but making the back end to work, so it is real, audited and collateralized asset is the hard part. It is even harder if it's a non-uniform asset such as rubies or other precious gems. The TRUST has combined digital technology such as blockchain, an innovative business model, and their expertise in financial industry to provide mobility and transformation that helps investors achieve greater value for investment in rubies.

I.   RST100 Token

The Trust's RST100 token are backed by rubies with a value of $683 million. They are designed to provide fractional ownership – creating a new asset class. Below are the key characteristics and offerings of RST100 token:
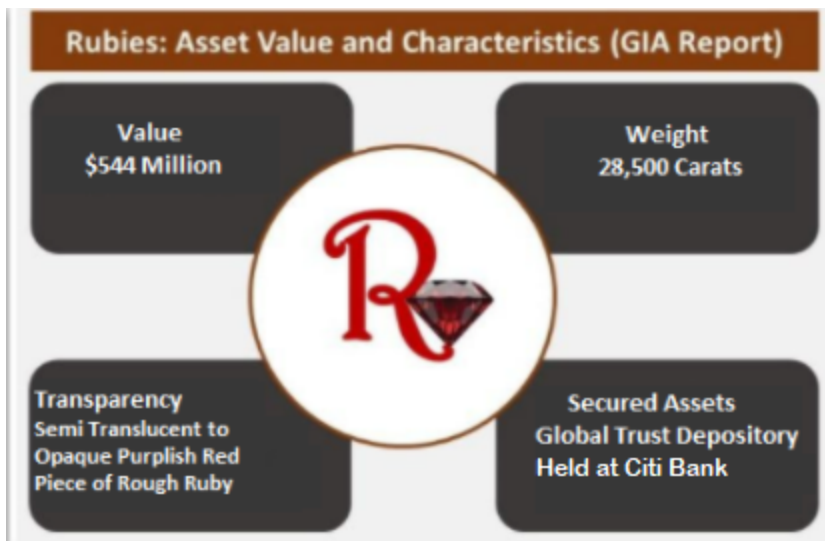
❖ Provide instant liquidity for a greater flexibility for investors/buyers

❖ Value of the token rises as market for rubies grows

❖ RST100 token owners can trade with other cryptocurrencies and fiat currencies to pay for products and services

❖ RST100 token owners can sell the token to other investors for up to the value of the token and a 5% premium. Please note, the absolute value of the 5% premium is prorated up to the number of months token was held prior to selling it. The maturity date for a 5% premium redemption is calculated based on a 12-month period. For example, if the token was valued at $100. With a 5% premium, its total value is equal to $105.00 if held for 12 months. If the owner held the token for 12 months prior to selling it, he/she can sell the token for up to $105.00. The new owner can then convert the token to Ether or make a choice of thousand different Tokens for $105.00 after holding it for 12 months or a new investor.

❖ The TRUST will buy back RST100 token from the owner with 5% premium payments after one year – providing added value to its owners/investors

❖ Since most currencies are valued by market forces resulting in high volatility, TRUST is not as sensitive to market volatility.

❖ With greater price stability, RST100 token functions as a better unit of account because it provides more reliable measure of the value of goods and services.

RST100 Token Offerings	
Maximum Offering	$5,440,000
Price/Token	$100
Minimum Offering	1 Token
Minimum Purchase/Investor	1 Token
Maximum Purchase/Investor	No Maximum

This Offering in the United States is limited solely to accredited investors as defined in Rule 501 of Regulation D under the Securities Act. The Tokens will be offered on a "best efforts" basis to qualified Investors by the Trust through the Trust's officers. All sales will be made privately to interested parties. The Tokens are being offered for sale to a select group of investors who meet the suitability standards.

II.   The TRUST Assets

Rubies are the primary assets of the TRUST secured by safekeeping. The diagram below describes the value of rubies:

Rubies: Asset Value and Characteristics (GIA Report)

Value
$544 Million

Weight
28,500 Carats

Transparency
Semi Translucent to
Opaque Purplish Red
Piece of Rough Ruby

Secured Assets
Global Trust Depository
Held at Citi Bank

Powered by Blockchain: Technology Platform

I.   Security Tokens

1. What are Security Tokens?

Security Tokens are digital assets that constitute an investment contract and are subject to federal security regulations. If cryptocurrencies are considered "programmable money" then Security Tokens can be considered a version of "programmable ownership." This means that any asset with ownership could eventually be tokenized (public & private equities, debt, real estate, etc).

Security Tokens utilize blockchain technology. Blockchain is a digital ledger that can be programmed to record transactions between all permitted parties. It is "decentralized" - instead of information being held in one place, it's shared (and continually updated) across the entire network of participants all over the world. This means that the transactional record between all parties is easily verifiable and public - instead of consulting with a particular record keeper or intermediary, any member of the database can view the complete record of all transactions at any time.

It's also virtually incorruptible - no centralized version of the information exists for a hacker to target. Because security tokens use blockchain technology, they're inherit the power of decentralization. This means that middlemen can be removed from the transactional process, which greatly increases the speed of deal execution, substantially lowers fees, and automates service functions. Because Security tokens enjoy blockchain's publicly verifiable record, it also reduces the probability of unnoticed manipulation by financial institutions.

2. Benefits of tokenization

❖ *Increased Liquidity*
   Security Tokens are tradable on secondary markets with qualified users. Trading times are no longer restricted to trading house hours and are open 24/7.

❖ *Lower Fees*
   Many of the transactional fees associated with middlemen are bypassed.

❖ *Faster Deal Execution*
   Security tokens enable immediate settlement on trading exchanges, allowing investors to act quickly and efficiently.

❖ *Transparent & Verifiable*
   The digital ledger is recorded across the entire network - all trades are verifiable and public.

3. The Regulated Token ("R-Token") Standard

The Regulated Token standard addresses the need for compliance on secondary transfers. It is built on ERC-20, a standard widely supported by the existing blockchain ecosystem.

The R-Token Standard embeds compliance at the token level and allows for decentralized trading of private securities across any platform that supports ERC-20 tokens. This significantly increases liquidity in comparison to confining trade within a single centralized exchange (the walled-garden approach) in order to enforce regulatory compliance. Centralized exchanges can enforce regulatory requirements to a limited degree, including KYC, AML, and accreditation. However, unless they take a walled-garden approach, once a token leaves that exchange, the issuer may be unable to enforce core securities regulations such as restricting the number of investors, requiring a minimum number of investors, and stipulating ownership levels. This solution enforces regulatory compliance at the token level, thereby meeting core securities requirements regardless of whether the trade occurs on centralized or decentralized exchanges.

The R-Token Standard includes three core services on the Ethereum blockchain:

1. R-Token,
2. Regulator Service
3. Service Registry

4. R-Token and Regulator Service

R-Token is a permissioned ERC-20 smart contract that can represent ownership of securities. It is compatible with all existing wallets and exchanges that support the ERC-20 token standard, but it overrides the existing ERC-20 transfer method to check with an on-chain Regulator Service for trade approval. Every time a transfer is initiated (e.g. Bob wants to transfer a token to Alice), R-Token calls the RegulatorService#check() method from within the transfer() and transferFrom() methods specified in ERC-20. If the check is successful, the transfer proceeds normally per the ERC-20 specifications (i.e. the token is transferred from Bob to Alice). In addition, the transfer() and transferFrom() methods deliver a successful CheckStatus event. If the check is unsuccessful, then the transfer() and transferFrom() method returns an error code (i.e. the transfer from Bob to Alice fails) and delivers an unsuccessful CheckStatus event with a reason code. The CheckStatus event can be used by thirdparty wallet providers to indicate the reason why a trade was not allowed. Figure 1 illustrates an example R-Token transfer sequence.

Example of an R-Token transfer sequence

Bob

R-Token
Smart Contract

Regulator Service
Smart Contract

Bob wants to transfer
20 tokens to Alice

transfer()
– initiate token transfer

check()
– check transfer permissions

reason code
– transfer approved

trasnfer confirmation event

20 tokens were transfered
to Alice wallet

Bob

R-Token
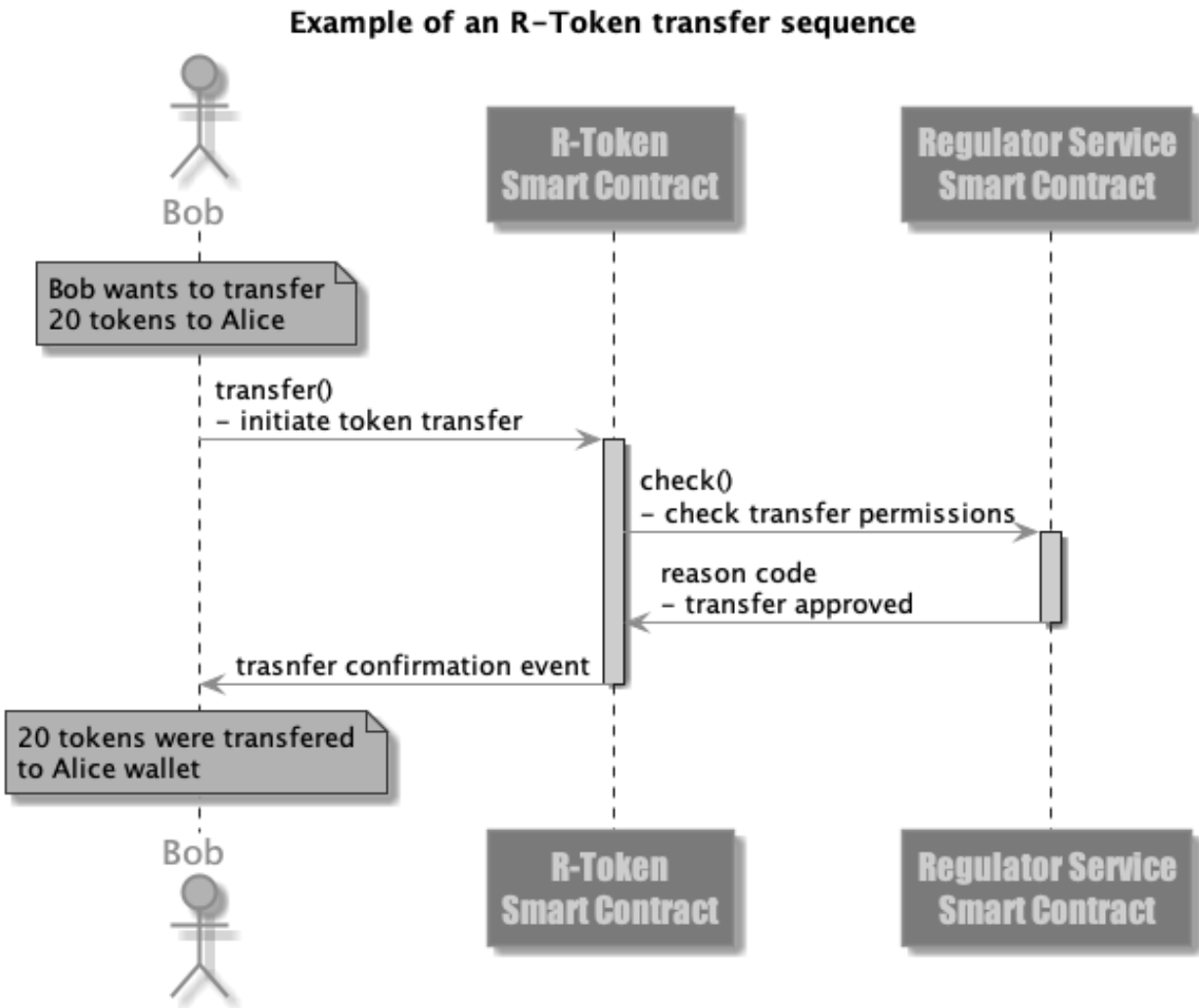Smart Contract

Regulator Service
Smart Contract

FIGURE 1 - EXAMPLE OF AN RST100 TOKEN TRANSFER SEQUENCE

1. Service Registry

The Service Registry provides the R-Token smart contract with a mechanism for locating the current, correct, or desired version of the Regulator Service.

The Service Registry provides the appropriate Regulator Service address to the R-Token; the R-Token then checks with the given Regulator Service to obtain trade approvals.

When a new version of the Regulator Service is introduced, the Service Registry provides the updated Regulator Service address to the R-Token. This ensures that the correct Regulator Service is used for trade approval.

5. **ERC1404**

   ERC1404 is an easily extendable standard for issuing tokens with transfer restrictions. It adds another layer of abstraction allowing for extra functionality and provides friendly responses to the user.

   This token standard has been developed with corporate governance, banking, and securities laws in mind. It is fully open source, which is paramount to ensuring its security, quality and interoperability.

   It provides a pattern by which human-readable messages may be returned when token transfers are reverted. Transparency as to why a token's transfer was reverted is of equal importance to the successful enforcement of the transfer restriction itself. A widely adopted standard for detecting restrictions and messaging errors within token transfers is highly convenient for exchanges, wallets, and issuers and most importantly, users.

II.   STO: Security Token Offering

1. **What is STO?**

   In a traditional Initial Coin Offering (ICO), tokens or coins are offered by companies for purchase as a form of crowdfunding. Purchasers can exchange their Ether or Bitcoin for a specified quantity of the ICO tokens being offered - similar to buying shares in an IPO - but instead of the coins conferring ownership or profit-sharing dividends, the tokens instead grant a special function to the token holder, called a "utility". These utility tokens allow the purchasers access to a specific network, platform, or service connected to the ICO.

   A Security Token Offering (STO) is very similar to an ICO. Buyers can purchase tokens during the offering that can then be traded, sold, or held onto. However, unlike ICOs, these tokens are financial securities and represent ownership of an asset.

III.   Technical overview of legal compliance architecture

   Financial securities require legal compliance during token issuance and transfers. For that reason, there was a need for an architecture that allows to perform legal compliance based on investor location and enforce it on blockchain at all times. Additional goal behind "legal compliance architecture" is full automation of investor and, in later phase, any token holder onboarding.

   The compliance architecture includes four core services:

   1. Legal platform
   2. Oracle
   3. R-Token
   4. Regulator Service

IV.   Legal Platform

Legal platform is responsible for managing the offering with legal compliance in regard to investor's location. It onboards investor, keep track of all required and signed documents, preforms checks like KYC, AML and investors accreditation. It collects money and acts as escrow account during the investment process. Our platform of choice is North Capital.

V.   North Capital

North Capital offers technology-based investment solutions to broker-dealers, banks, fund managers, funding platforms, and private issuers who wish to access private investment markets.

Its flagship product TransactAPI is utilized by our Oracle system to exchange data between North Capital and our smart contracts.

VI.   Oracle and Regulator Service

Oracle acts as a bridge between blockchain (R-Token & Regulator Service) and TransactAPI. It is using a webhook saved in TransactAPI and listen for new investors. When investors is approved on the legal platform, TransactAPI is sending that information to Oracle. Oracle will utilize TransactAPI to get investor details, specifically, investor's wallet address and send that data to Regulator Service on the ethereum blockchain, setting proper permissions for given wallet. Because oracle acts as the "owner" of Regulator Service on blockchain, it can manage permissions for all accounts at all times.

VII.   Oracle and R-Token

When permissions have been set for investor's wallet, Oracle will be waiting for confirmation of payment. That confirmation will be provided by legal platform (TransactAPI specifically) when fiat payment is fully processed. Then, Oracle will mint new tokens for the investor and transfer them to provided wallet address. Minting will happen on R-Token smart contract that stores all token balances. Within couple of minutes, investor will be able to start trading tokens with other "approved" investors without limitations. Figure 2 illustrates the workflow of legal compliance architecture.

Example of investment workflow
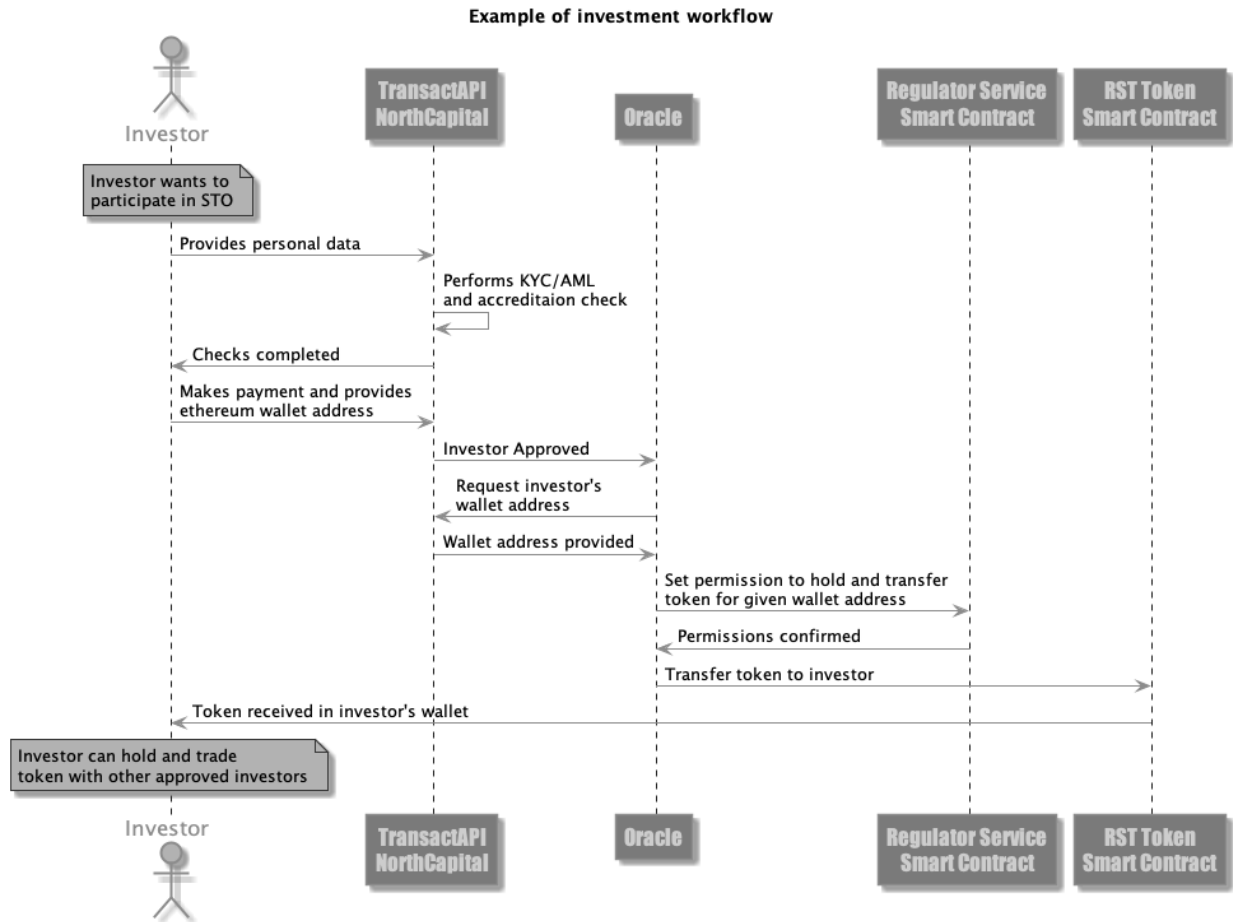
FIGURE 2 - EXAMPLE OF INVESTMENT WORKFLOW

III. STO Token Distribution

1. Token Supply Distribution and Minting

Tokens will be minted in a limited amount of 6,830,000 and released according to liquidation policy. All supply will be originally minted at to the issuer (Royal Swiss Credit Union and Capital Trust) wallet. Token distribution to investors will happen automatically, right after proper confirmation of payment from legal platform (North Capital).

2. Liquidity with Bancor Network

Liquidity for security tokens is a big challenge for all STOs. To meet the expectation of our investors, we are integrating with Bancor Network to give an instant opportunity for liquidation on our website. Token will be publicly available for purchase and exchange from day one.

10% of token total supply will be offered through Bancor's "Relay Smart Token". Token holders will be able to exchange {token name} to thousands of other tokens available on Bancor

Network. New token holders that will desire to buy {token name} will be required to do KYC/AML and investor accreditation checks before purchase.

3. TOKEN BURN AND BUYBACK (EXAMPLE)

Royal Swiss Credit Union and Capital Trust have a repurchase plan of their token. We will use, on average, anywhere between 50% to 100% of the net profits generated from ruby stones holdings each quarter to buyback and burn tokens from token holders. This buyback and burn model is intended to reduce the circulating supply of tokens, which can be a potential long-term value driver for investors.

Other Opportunities and Value Proposition

I. Other Opportunities

    a. Investments: The TRUST's plan on further diversifying its portfolio by making investments in the following areas:

- ❖ AI driven technologies
- ❖ Personalized and precision medicine
- ❖ Next generation of diagnostics
- ❖ Biomimetic systems
- ❖ Green commercial real-estate

II. Value Proposition and Conclusion

Most currencies are valued by market forces resulting in high volatility. Backed by rubies, RST100 token has a clear intrinsic value which may provide safer option to participate in blockchain and cryptocurrency space while protecting investments. The price of rubies has been increasing steadily over the century and investors who experience the capital gains, can now do so with private, simple and secure way with RST100 token. In summary:

- ❖ The TRUST is backed by hard assets such as rubies with safekeeping receipt
- ❖ The value of RST100 token rises as the market for rubies grows
- ❖ Innovative digital business platform with smart contracts
- ❖ Flexible offerings include instant liquidity, trading with other cryptocurrencies or fiat currencies and buyback program with premium payments