



ACU GOLD TOKEN

WHITE PAPER





ACU GOLD TOKEN

Summary

Gold, once served as a medium of exchange in human economic history, has been in existence for thousands of years. Due to its physical features, that role is gradually taken over by bank notes. However, gold has never exited the stage of history. On the contrary, at an era when all major countries adopt quantitative easing strategies, gold, as a luxury, is increasingly popular with investors globally as an asset which retains its value and a safe haven. A variety of gold-backed investment instruments are thus derived. That said, platforms of mixed qualities jumble together, adding to the confused rules and information, moral problems, and insufficient and lax regulation, costing investors great losses.

The advent of blockchain technology presents a solution to clear up the chaos in gold market. Gold token is an application of such technology, taking advantage of the traceability, absolute transparency and tamper-proofing features of blockchain.

The emerging revolutionizing technology has enabled the digitization of the whole process from gold mining, to refining, transportation and storage. So everything can be traced. In the storage and authentication of gold, in particular, blockchain can be of great value by generating unique and tamper-proof identification code, and broadcasting the code to the blockchain. In this way, information exchange and mutual recognition between off-line physical objects and on-chain data is realized. With robust endorsement and credit certificate, a reliable digital gold (gold standard) instrument – **Gold Token** is issued.



01

Background

Traditional physical gold market does not offer many trading options to investors. There are two common methods. One is to invest in registered physical gold. But such investment entails enormous storage and transportation cost, another disadvantage is that the registered gold cannot be easily severed or transferred. The other method is to invest in non-registered gold, and buy spot gold or gold futures contracts in some exchanges. In this investment, however, the investors do not have the legitimate right to use the underlying gold, all of the settlements are made in cash.

To tackle the pain points in traditional gold trading, digital asset unicorn ACU Digital Limited (hereinafter referred to as “ADL”), by utilizing fintech and blockchain technology, launches a convertible digital gold instrument – **Gold Token** within the current legal framework.



ACU GOLD TOKEN (ACUG)

ACU Gold (ACUG) is the digital version of premium and universally recognized high-purity physical gold, offered by ADL in partnership with ACU Bullion Limited (hereinafter referred to as “ACU Bullion”) – a member of Chinese Gold and Silver Exchange. The gold is stored in the designated vaults of high security standard in the form of London Good Delivery Bars (London gold) recognized by Chinese Gold and Silver Exchange. To be specific, every ACUG token represents one ounce of physical gold of the designated bar. The ACUGs purchased by the investors are convertible to physical gold in real time.

Every bar held by ACU Bullion weighs around 35.27 ounces (1 kg), valued at USD 60,450 (the reference price is the London gold price in March 2021). Conventionally, physical gold trading is only open to big institutions. Now with tokenized ACUG and blockchain technology, gold investment is democratized, the individual investors are now able to invest in a fraction of a bar. The minimum unit an investor can buy is 0.01 ACUG, equivalent to USD 18 based on the current price. To put in other words, the investment threshold is as low as several hundred Hong Kong Dollars. The goal of an inclusive gold market is thus realized.

The underlying physical gold



ACU Bullion, in cooperation with Black Well Global, provides first-rate and globally recognized physical gold to back the token. Black Well Global, since established in 2010, is in constant pursuit of professionalism and innovation and grows steadily. It has successfully provided services to over 100,000 clients in more than 100 countries, with a number of offices in APAC and Europe.

The price of ACUG fluctuates in synchronization with international gold price in real time as it is fixed to physical gold. ACU Bullion cooperates with top investment banks hedge the physical gold. Through the trading of a variety of gold derivatives, the single exposure of physical gold is hedged to the controllable extent. To properly deal with such a large amount of assets, and to ensure sufficient liquidity and asset safety, the risk management team at ACU Bullion is segregated to different portfolios, such as SPC and other holding methods, and rebalancing will be done regularly.



Why choose ACUG?

In an era of continuous Quantitative Easing (QE), using different portfolios to protect the assets against inflation and avoid the depreciation of currency due to the working of value effect is a constant theme. Physical gold has become one of the most preferred instrument. That said, high threshold, expensive fees and the security problems arising from transportation and storage are the hurdles to many investors. Paper gold presents a solution to the physical problems to some extent, but it is settled with fiat currency, not an investment in physical gold in essence.

ADL links ACUG token to physical gold through the adoption of blockchain technology. All of the information on the physical gold can be checked on the chain and is tamper-proof. One of the Big Four accounting firms is engaged to do regular audits on the actual stock of gold and to verify the real convertibility.

With the turnkey wallet app of ACUG, investors may easily access their digital assets and trade in ACUG wherever they are. Extended trading hours enable the investors to trade at home. They may trade conveniently in a safe and compliant delivery system through mobile devices whenever they want. The trading system presents the best price discovery and stock liquidity through a fair and equitable matching engine. Another advantage is the low trading cost, which is much lower than the trading cost of traditional paper gold and other gold instruments.



The holder of the underlying physical gold of ACUG, ACU Bullion, is the member of Chinese Gold and Silver Exchange (member code is 15). ACU Bullion is one of the few gold platform members of the gold and silver exchanges. The current laws and regulations of Hong Kong secures the compliance of the company, to purchase ACUG, the traders must own legitimate purchase qualification.

| | ACUG | PAXG | Gold ETF | Gold Futures | 1 KG Gold Bar |
|--------------------------|-----------|-----------|----------|--------------|----------------------------------|
| Hedge risk | ✓ | ✗ | ✓ | ✓ | ✗ |
| Interest | ✓ | ✗ | ✗ | ✗ | ✗ |
| Storage charge | 0 | 0 | 0.40% | N/A | 0.1%to1% |
| Minimum investment unit | ~\$20 | ~\$20 | ~\$200 | ~\$200K | \$2000 |
| Real time convertibility | ✓ | ✓ | ✗ | ✗ | ✓ |
| 24 x 7 trading | ✓ | ✓ | ✗ | ✗ | ✗ |
| Settlement time | Real time | Real time | T to T+2 | on due date | sell to physical store real-time |
| Regulated | ✓ | ✓ | ✓ | ✓ | ✗ |
| Loan | ✓ | ✗ | ✗ | ✗ | ✗ |
| Payment | ✓ | ✗ | ✗ | ✗ | ✗ |



ACU GOLD TOKEN

02 Technology



Basic Technical Specification

Technically, ACUG is a token based on Ethereum, following ERC-20 contract, and is compatible with ERC-20 wallet. ERC-20 is the smart contract on Ethereum, which is responsible for the reliability and safety of all ACUG trading. Ethereum is one of the world's biggest blockchain networks, its decentralization, safety and availability are guaranteed.

ERC-20 smart contract will list the basic attributes of ACUG, such as name, decimal place accuracy, quantity of tokens, the number of tokens owned by each Ethereum address, etc.. It also allows address owners to transfer their tokens. The users of Ethereum wallet, including the exchanges, crypto asset institutions, institutional investors and retail investors, have widely used and accepted ERC-20 token.

ACUG smart contract adopts the smart contract design solution of best practice, and is written in accordance with a set of safety check list specifications, well-equipped to prevent malicious invocation, overflow attack and underflow attack. It has passed the audit of security companies, the safety of investors' trading is guaranteed.

¹ERC-20: <https://developers.tron.network/docs/trc20>

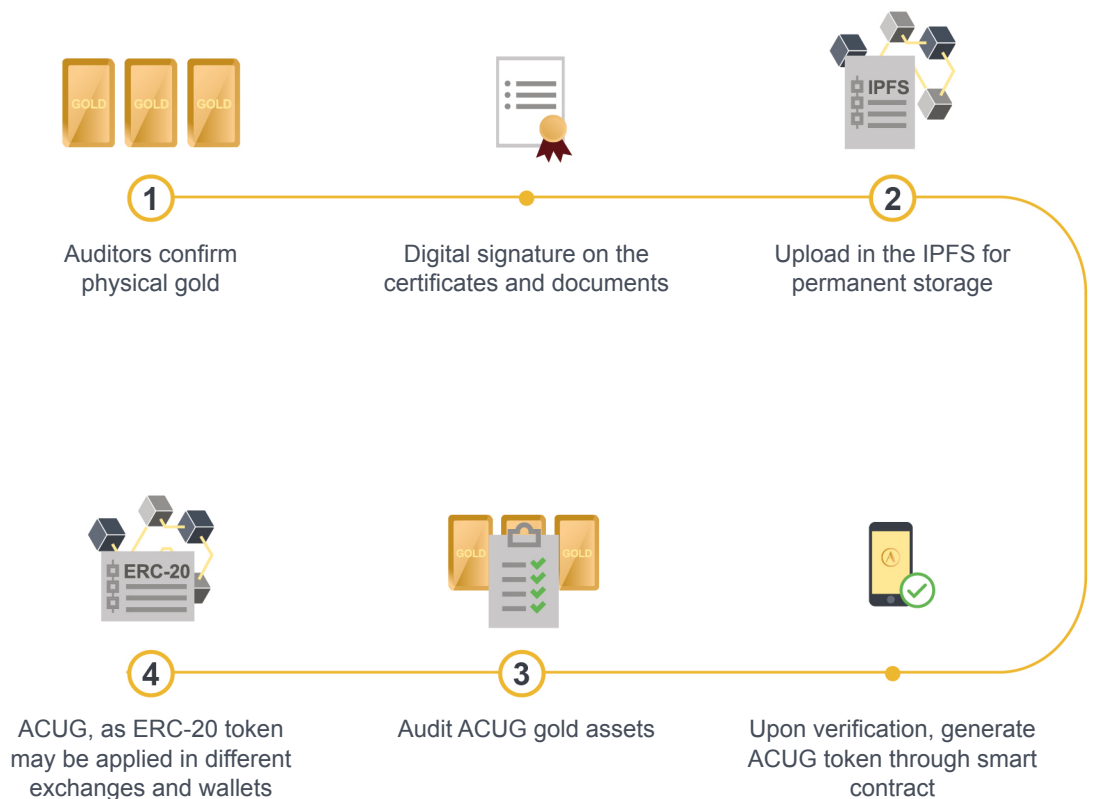


How ACUG and physical gold are put on chain?

All physical gold delivered based on London standard is identified by unique identification code and weight. ADL will publish the information on physical gold in IPFS to have it stored in a decentralized way. In the past, the credibility of database is questioned and the accessibility is sometimes invalidated as it is centralized and maintained by one single public entity. IPFS provides decentralized storage and open readability, without reliance on centralized database. Once uploaded in IPFS, the information on physical gold will be retained permanently and cannot be tampered.

Every unit of ACUG corresponds to the unique code in IPFS. Investors can check their ACUGs in the Ethereum addresses designated on ADL website, the information about the physical gold in IPFS will then be returned. ADL will regularly arrange the linkage between the ACUGs in the investors' addresses and the unique physical gold code, to optimize single address to own an entire piece of physical gold.

Physical gold is put on chain as follows:



¹IPFS: <https://docs.ipfs.io/concepts/what-is-ipfs/>



- ① The physical information to be verified when the gold is stored:
 - purity 9995/9999
 - weight
 - unique identification code
 - verification documents
 - purchase receipts
 - serial no. of the gold certificate
- ② Auditors sign on the certificates and documents, which will be then uploaded in IPFS for permanent storage. IPFS is a file transfer protocol for storing and sharing files in a permanent and distributed way.
- ③ Upon verification, generate ACUG token through smart contract. Auditors will regularly audit the quantity of gold assets. ACUG is linked to the weight of physical gold, which means that even if the price of ACUG drops sharply, investors are still able to convert their tokens into physical gold of corresponding quantity in any organizations ADL partners with or in the stores of ACU Bullion, and store the gold by themselves.
- ④ ACUG, as ERC-20 token, can be applied in different exchanges and wallets. Investors may purchase the tokens with USDT and other digital assets. With ACUG of 1KG (35.274 oz) or above at hand, the investors may convert the tokens to physical gold in the stock of ACU Bullion, provided that the investors make appointments in the wallet app, and personally visit the stores or organizations designated by ACU Bullion at the specified time.

¹The cooperative wallet officially designated by ACUG is WDC wallet

²USDT: <https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf>



ACU GOLD TOKEN

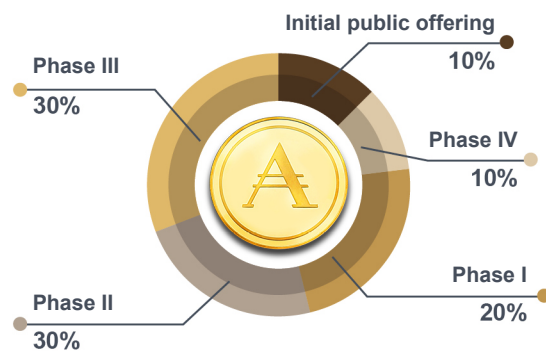
03 Issuance



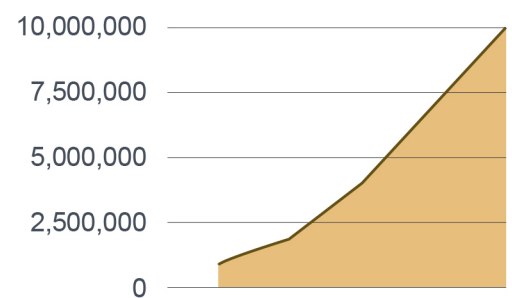
The issuance and destroy of ACUG

ADL will purchase 10,000,000 oz physical gold (amounted to USD 17.1 billion based on the price in March 2021) from ACU Bullion successively. Upon verification, physical gold will be put on chain by the exchange rate of 1oz to 1 ACUG. In initial offering, 1,000,000 ACUGs will be issued, linked to 1,000,000 oz gold. The remaining ACUGs will be issued in four phases by ADL based on actual progress.

The issuance of ACUG



Issuance plan



*The issuance at each phase will be adjusted based on reality.

When investors need to convert their ACUGs to physical gold, they may make appointments with ADL first. When the ID is verified and the corresponding amount of ACUGs is locked, the investors may have the tokens converted in the officially designated store. Afterwards, those ACUGs will be destroyed on chain. Like the issuance, the destroying process needs to be supervised by the auditors. ADL will regularly disclose the amount of ACUGs that have been destroyed, fairly and transparently publishing the data.

The stock management team of ADL will replenish the stock in time based on the actual inventory to ensure adequate amount of ACUG in secondary market.



04 Security



Platform asset and trading security

Considering that many third-party wallets are implanted with Trojan horses or malicious backdoor, while ACUG is linked to physical gold, representing gigantic digital assets, to ensure the security of asset wallet is now the paramount task of the R&D team at ADL. Its original wallet segregation technology physically separates hot wallet, pre-hot wallet and cold wallet in a rigorous way.

Hot wallet is responsible for daily operation and the deposit and withdraw, and must handle the investor's requests for deposit or withdraw within specified time frame. Hot wallet is an on-line wallet, with relatively low security. The R&D team at ADL apply the most advanced encryption algorithm – MPC (multi-party computation) to enable the hot wallet to connect to the internet without publishing the private key to cloud computing, security and asset transfer efficiency are thus greatly enhanced.

As to the cold wallet, ADL creates fully off-line multi-signature algorithm, in this way, to use or invoke the assets in the cold wallet, the consensus of ADL and relative senior managers is needed. Apart from that, the cold wallet has remote backups in multiple nations, even the operators wouldn't know the location of the backups, which greatly reduce the risk of single point of failure and key data leakage.

To ensure the security of trading, ADL trading platform applies the cutting-edge financial trading technology to deliver high-throughput trading and trading experience of low latency. The privacy and security of trading are guaranteed since all trading commands are made through asymmetric encryption and other technologies. Investors are able to directly check and lock the prices and do the trading with the fastest command through mobile network. technology minimize the trading operation and reduce the impact of market fluctuation on the investors.



Audit of gold assets

One of the Big Four accounting firms is engaged to audit the gold assets of ACUG. The accounting firm will make regular audit report on the gold assets.

¹Secure multi-party computation: https://en.wikipedia.org/wiki/Secure_multi-party_computation



05 Application



ACUG app of NFT version

ADL launches a NFT (non-fungible token) version of ACUG app in cooperation with local gold retailers and wholesalers in Hong Kong. Generally, the common tokens (BTC, ETH, etc.) we use are fungible, i.e. every BTC is identical, just like very bank note with a face value of HKD 100 carries the same purchasing power, and can be exchanged with each other. But NTF is different. Every NFT has its own unique symbol, so interchange among NFTs is not possible. The minimum unit of NFT is one, which cannot be segregated. This feature makes NFT a perfect tool to be applied in gold ornaments or treasures, which share the same attributes – non-severable and highly valuable for collection.

The technical team at ADL takes advantage of most advanced blockchain technology, adopts ERC721 protocol to deliver NFT contract. Model the gold ornaments or treasures with 3D scanning technology, extract the features of every object with computer vision algorithm, and upload the information, including the code of the gold and the certificates onto the blockchain, a set of digital signatures (Hash string) are then generated. ADL connects the digital signatures with one NFT, such a connection will be written in the Ethereum blockchain to create a new NFT.

Investors may freely withdraw, transfer or auction these NFTs via ACUG wallet app. In essence, it is a process to tokenize and digitize the gold ornaments or treasures stored in the coffers or vaults, and the investors are essentially transferring and auditing the specific and unique gold ornament or treasure. For the gold retailers, this technology increases the exposure and mobility of their gold ornaments or treasures, while for the investors, with this technology, it becomes easier for them to discover the treasures they admire without worrying the authenticity of the objects (since all information on the features of the objects are permanently stored on the blockchain in a tamper-proof way.)

¹ERC721, <https://eips.ethereum.org/EIPS/eip-721>



ACUG - based payment

ACUG, in partnership with local payment companies, launches Master and UnionPay debit card exclusive to ACUG. Qualified investors may convert their digital assets held in the ACUG wallet into available balance in the debit card for average retail payment. Investors may also use their profits of digital assets for retail payment, which greatly shortens the process of the conversion of digital assets, making it more convenient for the investors to access and consume the earnings brought by the appreciation of digital assets



Financial management and loans with ACUG

Except due to the rise and fall of gold price, traditional physical gold does not have much room for value increase, more than that, it incurs expensive storage and other costs. In response, ADL launches ACUG financial management plan in cooperation with partners. Investors are able to collect interests by participating in the plan with their ACUGs.

For some investors who intend to buy and hold the gold yet want to catch short-term investment opportunities, to use ACUGs as collateral for loans, borrowing cash or USDT with lowest interest to make short-term investment is an ideal option. When the value of gold soars continuously, owners of ACUG may borrow more money for investment without the need of purchasing more ACUGs, at the same time, the investors do not miss the earnings brought by the price rise.



A turnkey gold investment platform

ACU Bullion, the partner of ACUG, holds a membership license of Chinese Gold and Silver Exchange, is qualified to trade in gold contracts within the legal framework. Long-term investors may hope to hedge the short-term price fall. The technical team at ADL adopts well-developed and safe financial trading technology to enable the traders to invest in traditional gold contracts. Investors now are able to manage their gold investments in a turnkey platform via wallet app. Be it spot ACUG or gold futures contracts, investors will find the most convenient and straightforward way to invest, never missing one single price fluctuation. ADL technical team successfully reduce the cost to acquire assets and increase the return on investment.



ACU GOLD TOKEN

06 About



About ACU group

ACU group is the parent company of ADL.

Since 2000, the world has stepped into a new era where IT technologies develop by leaps and bounds and the demands for financial services diversify. The competition in financial sector becomes competition of high technology in essence. A new competition landscape imposes higher requirements on Asia's financial sector. Since established in 2012, ACU group has been focusing on fintech, in particular, blockchain technology. It now has blockchain R&D centres and digital asset management projects in several countries, including US, Canada, Australia and Singapore. The group is running a digital asset trading platform in Thailand. Up until now, ACU brand has passed trademark review in 46 countries and regions, including EU, US, Singapore, Korea, Brunei, Hong Kong SAR, Japan, the Philippines, Macau SAR, and UAE. The group has invested in upstream, midstream and downstream in blockchain industry chain, it mainly engages in the establishment of a unified digital asset payment ecology in Asia – ACUG, the experiment and application of digital currency in finance, payment, technology, and trading, research and development of blockchain technology, including the development, application of public blockchain, the development of exchanges and wallet systems, and the exchanges, education and training of blockchain talents.

The subsidiary of ACU holds license for SFC (Security and Futures Commission of Hong Kong) type 1, 4 and 9 regulated activities, Hong Kong MSO (Money Service Operators) license, money service business license issued by FinCen, US Department of the Treasury, money service business license issued by FINTRAC Canada, digital currency exchange provider registration issued by AUSTRAC, and Bank of Thailand foreign exchange license.

The mission of ACU is to research the impact of blockchain and digital currency on world economic revolution, technological revolution and industry revolution, and make breakthroughs in blockchain technologies. It is committed to educate and train blockchain talents and leading experts, with a view to facilitate traditional financial sector, real economy and internet sector to embark on the technology innovation, business innovation and institutional innovation, lead the evolution, upgrade and shift from mobile internet to value internet, so as to promote communication among people of different ethnicities, faiths and political opinions, remove barriers and bias. The ultimate goal is to create a mass collaborative group and consensus group based on value internet, reshape global value chain system, create new engines for world economic development, and contribute more wisdom for building a human community of a shared future.



黃金通證
ACU GOLD TOKEN

白皮書



黃金通證 ACU GOLD TOKEN

摘要

黃金作為人類經濟史上的一般等價物已經存在了數千年的歷史。由於其自身的物理特性，其等價物的職效功能逐漸被紙幣取代。但是，黃金並沒有退出歷史舞台。相反，在所有主要國家實行量化寬鬆的環境下，黃金作為一種奢侈品，保值資產和避險目標已日益受到全球投資者的青睞。相應地，還衍生了各種以黃金為基礎的投資目標工具。然而，在市場上，充斥著龍蛇混雜及良莠不齊的平台，加上資訊和法規的混亂，道德的問題，監管不力和不足往往使投資者蒙受損失。

區塊鏈技術的出現可為混亂的黃金交易市場注入一股清泉。利用區塊鏈的可追溯，不可篡改和完全透明的特性，黃金通證的概念應運而生。

如今，隨著新技術的革命，黃金從金礦開採到精煉，運輸，庫存等一系列過程都可以數字化和追溯。其中，黃金庫存和認證更可以使用區塊鏈技術來生成唯一且不可篡改的識別碼，並將其廣播到區塊鏈。從而實現從離線物理對像到鏈上數據的信息交換和相互識別。提供可靠的背書和信用憑證，來發行可靠的數字黃金(金本位)的投資工具 — **黃金通證**。



01 背景

在傳統的實物黃金交易中，投資者沒有太多選擇的渠道。一種是購買已註冊記名的實體黃金，但缺點是庫存和運輸成本巨大，並且不容易分拆和轉讓。而另一種則是，投資者可以購買非記名的黃金，並在某些交易所購買現貨黃金或黃金期貨合約。但是，這樣做法是沒有使用錨定黃金的合法權利，所有結算都是以現金進行。

如今，數字資產獨角獸 ACU Digital Limited 下稱「ADL」，特別針對一系列黃金交易的痛點，結合全新的金融科技和區塊鏈技術，在當前法規框架下，嶄新推出了一種可兌現的數字黃金交易工具 – 黃金通證。



黃金通證 ACU GOLD (ACUG)

ACU Gold (ACUG)，由 ADL 夥拍香港金銀業貿易場會員之一的ACU Bullion Limited香港亞數金業公司下稱「亞數金業」合作，提供高質量及國際認可高純度黃金的實體黃金數字版本。透過由香港金銀業貿易場認可的倫敦標準交割黃金（倫敦金）存放在安全性極高規格的指定保險庫中。具體來說，每個 ACUG 通證在指定的金條上代表1盎司的實體黃金。如果投資者購買一定數量的ACUG，則可以實時兌換實體黃金。

亞數金業持有的金條每條重約35.27盎司(1千克)，折合價為\$60,450美元(參考價:2021年3月的倫敦金價)。一般而言，傳統的實物黃金只能由大型機構購買，但透過通證化的ACUG及結合區塊鏈技術後，便可普及至大多數個人投資者也可涉獵黃金作投資工具，例如個人投資者可以購買金條的部分份額，ACUG的最低購買量為0.01枚，相當於當前價格為18美元。換句話說，入場費門檻可低至數百港元。實現普惠及包容性黃金金融市場的目標。



背後的實物黃金

亞數金業與博威環球公司(Black Well Global)合作提供頂級國際認可的實物黃金支持。自2010年成立以來，博威環球一直追求專業和創新，穩步增長，成功為全球100多個國家的10萬多名客戶提供服務，並在亞太地區和歐洲地區建立了多個運營地點。

由於ACUG錨定實物黃金，其實時價格將與國際黃金價格同步波動。為了對沖金價波動的風險，亞數金業與多間頂級投資銀行合作對沖實物黃金。通過一系列黃金衍生品的交易，實物黃金的單一風險敞口被套期至可控範圍內。由於數量龐大，並且為了提供充足的流動性和資產安全，亞洲金業的風險控制團隊將會分拆為不同的投資組合，例如SPC和其他持有方法，並定期進行調倉操作。



為什麼購買ACUG?

在當今世界各國合法貨幣持續量化寬鬆的時代，每個人都想使用不同的投資組合來應對通貨膨脹和價值效應所導致的貨幣貶值。投資實物黃金已成為最熱門的投資組合選擇之一。但是投資實物黃金的門檻很高。此外，手續費高昂，並且諸如運輸和存儲之類的安全問題還沒有得到很好的解決。儘管紙黃金在一定程度上解決了實物黃金的一些物理問題，但從本質上講，它仍以法定貨幣結算，無法達到投資實金的目的。

ADL使用區塊鏈技術將實物黃金與ACUG黃金通證鏈接起來。可以在鏈上查詢所有實物黃金信息，沒有人可以篡改它。然後，由國際四大會計師事務所之一對其進行定期審計，以確保其真實黃金存庫實況及具可兌換性的真實性。

通過ACUG的一站式錢包應用程序，無論身在何處，投資者都可以輕鬆地用數字資產進行ACUG交易。超長交易時間使投資者可以呆在家裡，當他們心血來潮時，他們可以通過移動設備在安全且合規的交付系統中方便地進行交易。交易系統由公平公正的匹配引擎提供最佳的價格發現和庫存流動性，並且ACUG的交易費用低廉，遠低於傳統的紙黃金和其他交易成本。



ACUG的實金持有人亞數金業是香港金銀業貿易場的會員(會員編號:15)。亞數金業是黃金和白銀行業交易會中為數不多的黃金集團成員之一。香港現行法律法規保證了公司的合規性，交易者必須具備合法的購買資格才能購買ACUG。

| | ACUG | PAXG | 黃金ETF | 黃金期貨 | 黃金公斤條實物 |
|--------|-------|-------|----------|---------|----------|
| 可對衝風險 | ✓ | ✗ | ✓ | ✓ | ✗ |
| 利息 | ✓ | ✗ | ✗ | ✗ | ✗ |
| 保管費 | 0 | 0 | 0.40% | N/A | 0.1%to1% |
| 最少購買金額 | ~\$20 | ~\$20 | ~\$200 | ~\$200K | \$2000 |
| 即時黃金兌換 | ✓ | ✓ | ✗ | ✗ | ✓ |
| 24/7交易 | ✓ | ✓ | ✗ | ✗ | ✗ |
| 交易結算時間 | 即時 | 即時 | T to T+2 | 到時日 | 即時賣給實體店 |
| 受規管 | ✓ | ✓ | ✓ | ✓ | ✗ |
| 借貸 | ✓ | ✗ | ✗ | ✗ | ✗ |
| 支付 | ✓ | ✗ | ✗ | ✗ | ✗ |



02 科技



基本技術規格

在技術實施方面，ACUG是基於以太坊(Ethereum)的通證，遵循ERC-20協議，並與ERC-20以太坊系列錢包兼容。ERC-20是以太坊的智能合約，以太坊將負責所有ACUG交易的可靠性和安全性。以太坊是世界上最大的區塊鏈網絡之一，其去中心化，安全性和可用性得到保證。

同時，ERC-20智能合約將列出ACUG的基本屬性，例如名稱，小數位精確度，代幣總量，每個以太坊地址的持有數量等，並且還允許地址擁有者進行通證轉移。以太坊錢包的用戶，包括交易所，加密資產機構，機構投資者和零售用戶，已被廣泛使用並接受ERC-20通證。

ACUG的智能合約採用最佳實踐的智能合約設計解決方案，並按照一系列安全檢查表規範進行編寫，可以有效地抵抗惡意調用，上溢和下溢攻擊。並通過了一系列安全公司的審計合約，確保投資者的交易安全性。

ACUG當前僅在以太坊上使用，並且計劃日後也陸續在其他鏈上提供，例如TRC-20¹。TRC-20普遍用於小額轉賬，使交易者可以使用更低的費用和更快的轉賬。

¹TRC-20: <https://developers.tron.network/docs/trc20>



ACUG 與實物黃金的上鏈流程

所有交付至倫敦標準的實物黃金均通過唯一的識別代碼和重量進行識別。ADL將在星際文件系統(IPFS)上發布實物黃金信息，以進行去中心化的保存。過去，由於數據庫是以中心化形式由單一公開實體進行維護，因此它的可信度受到質疑，並且可能無法訪問。IPFS¹提供去中心化儲存的和開放的可讀性，而無需依賴集中式數據庫。當實物黃金信息上傳到IPFS時，它可以永久保留並且不能被篡改。

ACUG的每個單元將對應IPFS上的實物黃金唯一代碼。投資者可以在ADL網站上指定的以太坊地址查詢ACUG，並將返回IPFS上的實物黃金信息。ADL將定期整理投資者地址上的ACUG和唯一的實物黃金代碼之間的對應關係，以優化單個地址以擁有一整塊實物黃金。

實物黃金上鏈流程如下圖：



¹IPFS: <https://docs.ipfs.io/concepts/what-is-ipfs/>



- ① 核實確認實物黃金入庫的物理信息
 - 純度 9995/9999
 - 重量
 - 唯一標示碼
 - 核實文件
 - 購買收據
 - 金條證書序號
- ② 相關證書和文件由認可核實專員進行數字簽名，並上傳到星際文件系統(IPFS)進行永久存儲。星際文件系統(InterPlanetary File System，簡稱IPFS)是一種網絡傳輸協議，可創建持久性和分佈式存儲以及共享文件。
- ③ 經核實後，操作智能合約以生成ACUG通證。審計機構將定期審計ACUG的黃金資產數量。ACUG和實物黃金的重量聯繫在一起，這意味著即使ACUG的價格大幅下降，投資者仍可以在任何ADL合作機構或亞數金業門市兌換相應數量的實物黃金，然後自行儲存。
- ④ ACUG，作為ERC-20通證，可在各大交易所和錢包應用²，通過數字資產，如USDT¹等進行購買。投資者凡持有1千克(35.274盎司)或以上的ACUG，便可安排兌現亞數金業金庫中存儲的實物黃金。投資者只需提前在錢包應用預約兌換，並在特定時間和地點親臨亞數金業的指定門店或機構，即可將ACUG兌換成實物黃金。

¹ACUG指定官方錢包為ACU錢包

²USDT: <https://tether.to/wp-content/uploads/2016/06/TetherWhitePaper.pdf>

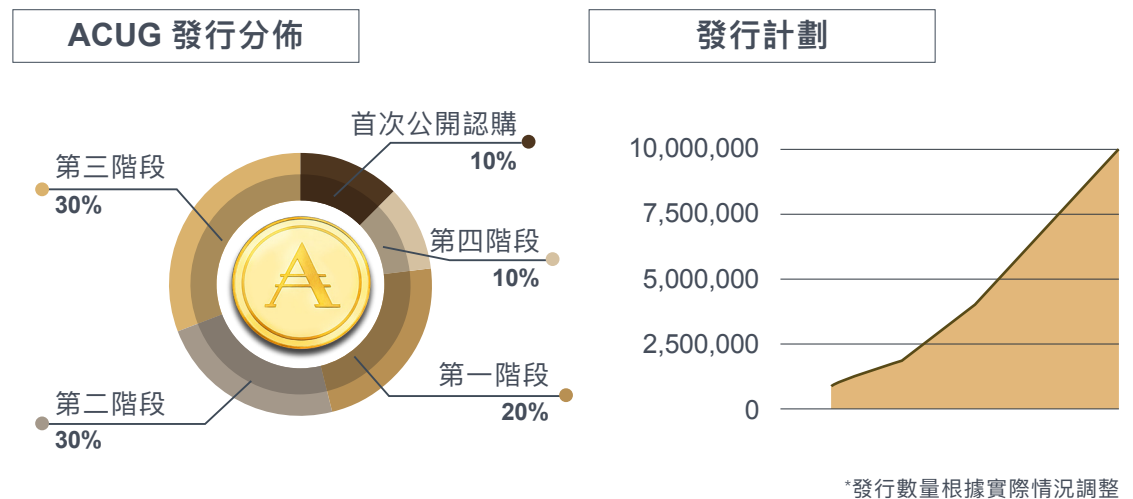


03 發行



ACUG 發行與銷毀

ADL會在亞數金業相繼購入10,000,000盎司實物黃金(價值約171億美元，2021年3月價格)來支撐ACUG的發行。認可核實後，實物黃金將會進行資產上鏈，以1盎司:1ACUG的兌換率進行掛鉤。首次出售的ACUG數量為1,000,000枚，即1,000,000盎司實物黃金。隨後，ADL將根據實際情況分四個階段發行餘下的ACUG。



當投資者需要將ACUG兌換成實物黃金時，他們可以首先與ADL進行兌換預約。身份驗證並鎖定對應數量ACUG後，即可到官方指定門店進行兌換。相應數量的ACUG也將在鏈上銷毀。銷毀過程與發行相同，需要在核實專員的監督下進行。ADL將定期披露銷毀的ACUG數量，使數據公平透明地公開。

ADL的庫房管理團隊將根據實際情況及時補充黃金，務必確保二級市場上的ACUG有足夠的流通量。



04 安全



平台資產和交易安全

鑑於許多第三方錢包都遇到了注入木馬或惡意後門等因素；ACUG與實物黃金掛鉤，等價於非常龐大的數字資產。資產錢包的安全性已成為ADL研發團隊的重中之重。其獨創的錢包隔離技術可對熱錢包，預熱錢包和冷錢包實行嚴格的物理分離。

熱錢包負責處理日常營運流水操作以及出入金安排，並且必須在指定時間內處理投資者的出入金要求。由於熱錢包是在線錢包，因此安全系數相對較低。ADL的研發團隊採用最先進的加密算法MPC¹(安全多方計算)技術，使熱錢包即使連接到網路時亦可無需將私鑰公開給雲端計算，從而極大地提高了安全性和資產轉移效率。

而冷錢包則獨創了全離線的多重簽名算法，需要ADL與相關高層負責人的一致共識才能使用或調動冷錢包的資產。此外，冷錢包採用遠程和多國備份，即操作員也不知道錢包的備份位置，這大大降低了單點故障和關鍵數據洩漏的風險。

在交易安全性方面，ADL交易平台使用最先進的金融交易技術來實現高吞吐量和低延遲的交易體驗。所有交易指令均通過非對稱加密和其他技術確保交易的私密性和安全性。通過移動網絡，投資者可以輕鬆地使用最快的指令直接進行查詢，鎖定價格和交易。在極大地簡化交易操作的同時，還減少了對投資者而言不利的市場波動因素。



黃金資產審計

ACUG的黃金資金由四大國際會計師事務所之一進行資產審計。會計師事務所會對黃金資產進行定期的審計報告。

¹Secure multi-party computation: https://en.wikipedia.org/wiki/Secure_multi-party_computation



05 應用



NFT 版的 ACUG 應用

ADL和香港本地黃金零售/批發商合作，推出NFT(non-fungible token)非同質化通證版本的ACUG應用。一般而言，我們常用的通證(BTC，ETH等)都是同質化的，即每個BTC之間沒有任何區別，像100元港幣面鈔一樣，每一張100元代表一樣的購買力，並且他們之間可以互換和找零。而NFT的重要特徵在於，每一個NFT擁有獨特且唯一的標識，兩兩不可互換，最小單位是1且不可分割。這樣的特性可以天然地應用到黃金飾品或珍藏品中。他們的特點也是唯一且不可分割，具有收藏價值。

ADL技術團隊採用最前沿的區塊鏈技術，ERC721¹協議來現實NFT合約。把黃金飾品或黃金珍藏品用3D掃描技術建模，採用計算機視覺算法對每個對象進行特徵抽取，連同其本身的黃金編號，證書等信息一起，上傳到區塊鏈中，從而生成一組數字簽名(Hash字符串)。對應地，ADL團隊把這個數字簽名和一個NFT唯一對應起來，對應關係被寫入以太坊區塊鏈形成新NFT。

投資者可以通過ACU錢包應用，自由地把這些NFT提走，轉讓，或拍賣。其本質上等於把安放在金庫或者保險櫃里的黃金飾品或珍藏品進行通證化和電子化，其轉讓和拍賣的實體就是那件特定且唯一的黃金飾品或珍藏品。通過這個技術，一方面對黃金零售商來說，增加了黃金飾品或黃金珍藏品的曝光率和流動性；另一方面，對投資者來說，更容易讓他們發現心儀的黃金飾品或黃金珍藏品而不必擔心物品的真偽(因為所有特徵資料已經在區塊鏈永久保存且任何人不可篡改)。

¹ERC721, <https://eips.ethereum.org/EIPS/eip-721>



基于 **ACUG** 的消費支付

ADL和本地支付公司合作，聯營推出ACUG專屬的Master和銀聯扣賬卡。指定合資格的投資者可以通過在ACU錢包持有的數字資產，轉化為扣賬卡的可用餘額，進行一般零售消費。投資者可以把數字資產的盈利轉化為零售消費，大大縮短了數字資產轉化的路徑，更方便消費和享受數字資產升值帶來的收益。



ACUG 理財和借貸

除了黃金價格的漲跌外，傳統的實物黃金基本上沒有增值能力，甚至產生高昂的庫存和其他成本。為了應對這些投資痛點，ADL與金融合作夥伴推出了ACUG理財計劃。投資者可以通過持有一定數量的ACUG並參與理財計劃來獲得相應的利息。合資格投資者可以通過持有一定數量的ACUG並參與理財計劃來獲得相應的獎賞Token。

此外，對於某些想長期持有黃金但又不想錯過短期投資機會的投資者，亦可憑藉已購入的ACUG作為抵押品進行借貸，按最優惠借貸利率借出現金或USDT進行短期投資。如果黃金的價值繼續飆升，ACUG持有者在不增加投入的情況下可繼續借出更多的流動資金進行投資，與此同時，也不用擔心錯過黃金上漲的利潤空間。



一站式黃金投資平台

ADL的合作方亞數金業持有香港金銀貿易場的會員牌照，可以按照法規進行黃金合約交易。在長期持有黃金的過程中，投資者可能希望對沖黃金短期波動導致價格下跌的風險。ADL技術團隊通過先進且安全的金融交易技術，為交易者帶來了全新的體驗，將傳統的黃金合同交易帶給了交易者。通過錢包應用，投資者可以一站式管理其黃金投資。無論是交易現貨ACUG還是期貨合約黃金，它們都可以以最方便，最直觀的方式操作，並把握每一次黃金價格波動帶來的收益。而且，它大大降低了獲得資產的成本並提高了投資回報率。



06 關於



關於ACU集團

ADL的母公司是ACU集團。

自跨入千禧年以來，全球步入資訊技術革命突飛猛進和社會金融服務需求多元化的時代，金融領域的競爭正日益表現為高科技的競爭，新的競爭環境對亞洲的金融業發展提出了更高要求。自2012年ACU集團成立至今，以金融科技圍繞區塊鏈項目為主營業務，在美國、加拿大、澳大利亞、新加坡多個國家成立區塊鏈技術研究中心及數字資產管理項目，同時集團在泰國運營數字資產交易平臺，截止目前，ACU品牌已經在歐盟、美國、新加坡、韓國、汶萊、香港特別行政區、日本、菲律賓、澳門特別行政區、阿拉伯聯合大公國等46個國家和地區通過商標審核。集團佈局區塊鏈上中下游產業鏈，主要業務涵蓋：成立亞洲統一的數字資產支付生態ACU；數字貨幣在金融、支付、科技、貿易等方向的試驗和應用；區塊鏈相關技術研究、開發，包括區塊鏈公鏈開發、民生應用、交易所及錢包系統開發等；區塊鏈領域核心人才的交流、教育和培養。

ACU集團旗下子公司持有香港的證券及期貨事務監察委員(SFC)之第1、4和9類受規管活動牌照、香港海關之金錢服務經營者牌照(MSO)、美國財政部下設的金融犯罪執法網路(FinCEN)之貨幣服務業務牌照、加拿大金融犯罪監管機構加拿大金融交易和報告分析中心(FINTRAC)之貨幣服務業務牌照、澳洲政府金融情報機構澳洲交易報告分析中心(AUSTRAC)之數字貨幣交易服務商牌照，以及泰國央行之外匯兌換牌照。

ACU集團的成立，旨在深入研究區塊鏈和數字貨幣對世界經濟變革、技術變革和產業變革帶來的重大影響，著力攻克一批區塊鏈領域的核心技術，致力培養一批區塊鏈領域的優秀人才和領軍人物，幫助傳統金融行業，實體行業以及互聯網行業開啟技術創新、模式創新和制度創新，引領世界從移動互聯網到價值互聯網的演進、升級和躍遷，促使不同種族、不同信仰、不同政見的人們，增進溝通，消除隔閡，摒棄偏見，從而形成基於價值網絡的大規模協作群和共識體，重構全球價值鏈體系，創造世界經濟發展的新引擎，為推動構建人類命運共同體貢獻更多的智慧。