

Alvara Protocol

[Problem/Solution & Background White Paper — Final

—

[5 June 2025 - The Alvara Team]

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Abstract

This paper presents the Alvara Protocol. An industry first, Alvara provides key infrastructure facilitating the creation of fully decentralized, meritocratic, tokenized cryptocurrency investment baskets. The protocol decentralizes traditional investment basket processes through the establishment of a network of tokenized investment baskets, built on the newly developed ERC-7621 or Basket Token Standard (BSKT). Alvara will support the creation of both centralized and decentralized baskets, giving deployers the ability to initiate a DAO (decentralized autonomous organization) which will undertake a role in decentralized management. The protocol provides built-in fee sharing structures to incentivize managers to design, develop and deploy ERC-7621 tokens, competing against other basket managers on Alvara's leaderboard. Management rights can be traded via Alvara's marketplace, enabling ERC-7621 creators to sell both the rights to management as well as their basket's management fee revenue stream. Central to the protocol is the Alvara DAO, powered by the veALVA governance token. As well as using veALVA to vote on proposed changes to the protocol, veALVA holders can also nominate their balance to a BSKT of their choice every 7 days, directing the ALVA reward flow to the most popular BSKT'.

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CRYPTO-ASSET WHITE PAPER
For The Alvara Protocol +
ALVA (the Token)

This crypto-asset white paper (the Whitepaper) has not been approved by any competent authority in any Member State of the European Union. The offeror of the Token is solely responsible for the content of this Whitepaper.

The Whitepaper has been prepared in accordance with Title II of Regulation (EU) 2023/1114.

EXECUTIVE SUMMARY

This summary should be read as an introduction to the Whitepaper. Any decision to purchase the Token should be based on consideration of the Whitepaper as a whole by the prospective holder.

The Alvara Protocol facilitates the deployment of decentralized, meritocratic, tokenized and on-chain investment baskets. Put simply, Alvara will enable the creation and management of tokenized investment baskets.

ALVA is the protocol's native token; an ERC-20 utility token that serves multiple functions within the platform, including access to staking, governance and rewards.

This offer to the public does not constitute an offer or solicitation to purchase financial instruments, and any such offer or solicitation can be made only by means of a prospectus or other offer documents pursuant to applicable national law.

This Whitepaper does not constitute a prospectus as referred to in Regulation (EU) 2017/1129 or any other offer document pursuant to Union or national law.

MANAGEMENT BODY STATEMENT

The members of the management body of Alvara Protocol Inc. (the **Company**) hereby confirm that this Whitepaper complies with Title II of Regulation (EU) 2023/1114 (Markets in Crypto-Assets) and that, to the best of our knowledge, the information presented in this Whitepaper is fair, clear and not misleading, and makes no omission likely to affect its import.

MANDATORY RISK WARNINGS

Prospective Token holders are specifically warned that:

1. This summary should be read as an introduction to the Whitepaper;
2. Any decision to purchase the Token should be based on consideration of the Whitepaper as a whole;
3. This offer does not constitute an offer or solicitation to purchase financial instruments;
4. This Whitepaper does not constitute a prospectus under Regulation (EU) 2017/1129 or other offer document under Union or national law.

The prospective Token holder is informed that:

1. The Token may lose its value in part or in full;
2. The Token may not always be transferable;
3. The Token may not be liquid;
4. The Token may not be exchangeable against the promised goods or services, especially in case of failure or discontinuation of the project;
5. The Token is not covered by the investor compensation schemes under Directive 97/9/EC; and
6. The Token is not covered by the deposit guarantee schemes under Directive 2014/49/EU.

INFORMATION ABOUT THE OFFEROR

Name: Alvara Protocol Inc.

Legal Form: Limited Company

Registered Address: Advanced Tower Building, First Floor, Ricardo Arias Street, Panama City, Republic of Panama

Head Office: Advanced Tower Building, First Floor, Ricardo Arias Street, Panama City, Republic of Panama

Date of Registration: February 24, 2023.

Legal Entity Identifier: 155733836

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Parent Company: None

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Business Activity: Alvara Protocol Inc. develops and operates the Alvara Protocol, a decentralized platform enabling the creation and management of tokenized investment baskets using the ERC-7621 standard on the Ethereum blockchain and other EVM-compatible chains.

Financial Condition: As a recently established entity, Alvara Protocol Inc. has limited financial history. Initial funding has been secured through seed and private rounds totaling 20,000,000 ALVA tokens (10% of total supply), with proceeds allocated to protocol development, marketing, and operational expenses.

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1. Overview

1.1 Introduction

‘Alvara’ / al-VUH-ra / - derived from the Latin “alvarium”, meaning ‘beehive’; also Gothic, meaning ‘guard of all’.

The Alvara Protocol facilitates the deployment of decentralized, meritocratic, tokenized and on-chain investment baskets. Put simply, Alvara will enable the creation and management of tokenized investment baskets.

The protocol will be populated by an innovative new token standard, the ERC-7621 (Basket Token Standard). Alvara’s built-in leaderboard will auto-populate and rank every ERC-7621 minted on-chain.

Alvara provides the critical infrastructure for mass user interaction with the new ERC-7621 technology. It achieves this through the provision of an automatic BSKT minting lab contract which combines and encrypts tokenized assets, producing a single ‘basket-token’, the BSKT. The protocol has its home on the Ethereum blockchain, but will become a fully chain-agnostic solution.

Alvara operates as a decentralized application, or dapp. Users are able to create and mint their own basket of tokens by contributing an initial investment of 0.1 ETH.

The AlvaraX, Alvara’s orderbook DEX, will give managers and/or their DAOs the ability to transform their investment baskets into tokenized BSKTs (exchange-traded baskets), offering the major advantages of increased liquidity, passive earnings and arbitrage opportunities. The AlvaraX will use decentralized liquidity pools, incentivizing both the manager and liquidity providers with a percentage share of the trading fees.

The protocol consists of five separate arms:

1. BSKT Lab
2. The Leaderboard
3. The Alvara DAO
4. The AlvaraX
5. The BSKT Marketplace

Alvara's vision is to accelerate the decentralization of the global economy by delivering the world's most popular financial products - mutual baskets - to blockchain.

The traditional financial systems provide a diverse range of investment vehicles. Before the rise of blockchain technology, these bespoke services had been provided primarily by centralized financial institutions. The most widely used of these services are baskets. Whether these be "passive" baskets which track an index or sector, exchange traded baskets (BSKTs) or hedge baskets, they all work on the fundamental premise of diversifying capital allocation across numerous individual assets within the same wrapper. As of the time of writing, tokenized investment baskets have not made any significant inroads into blockchain or decentralized finance.

1.2 Defining the Challenges

Alvara is cultivating the next generation of digital basket managers, redesigning the investment markets, and solving several of the major problems prevalent in both the traditional finance and cryptocurrency landscapes, including:

High Barrier to Entry for Basket Managers:

In the traditional basket management landscape, talented individuals would need to spend years studying to get a degree whilst already possessing the knowledge to become a basket manager. **The Alvara Protocol provides the infrastructure for anyone to become a manager.**

Bringing a true meritocracy to basket management, the competitive leaderboard proves who's got what it takes.

Lack of Transparency:

Traditional finance is flawed, with lack of transparency being one of the main issues. **The Alvara Protocol allows for complete transparency and proof of reserves of BSKT tokens and their underlying assets. Every basket has on-chain data and transactions directly accessible to investors.**

High Risk Sector:

Cryptocurrency's volatility discourages new investors. **The Alvara protocol provides key infrastructure that will help users manage this volatility through diversified investment baskets, thereby decreasing investors' exposure to individual high-risk crypto assets.**

Spoilt for Choice:

Investors entering crypto are overwhelmed by a huge range of options - *"It's everything you don't understand about money combined with everything you don't understand about computers,"* - John Oliver, describing cryptocurrency.¹ **Alvara solves this problem with its network of verifiable basket managers. Users can check the performance history of each manager and make a decision based on their profitability. This simplifies investment decisions for less experienced traders, or those who simply do not have the time to follow a multitude of assets. Alvara strives to help traders invest their time, and capital, wisely.**

Slow Adoption:

The vast majority of global assets under management (AUM) remains in centralized TradFi markets. In an increasingly digitized and tokenized economy, **Alvara attracts investment from traditional markets, facilitating the mass adoption of cryptocurrency.**

Lack of Verification:

Lack of verification and accountability cultivates a poor and untrusting sentiment within the landscape, and is a major inhibitor to mass adoption. **Alvara provides a platform where basket managers can clearly and precisely demonstrate their skills with full transparency, and platform users can verify a manager's performance history directly within the protocol, leaving no ambiguity as to the validity of their claims. Alvara will separate the skilled from the unskilled in an exciting, gamified setting, breeding a new generation of basket managers and influencers.**

(Dillet, 2018)

1.3 Crypto-Asset Project Details

Project Name: Alvara Protocol

Crypto-Asset Name: ALVA Token

Description: The Alvara Protocol is a decentralized platform facilitating the creation and management of tokenized investment baskets via the ERC-7621 Basket Token Standard (BSKT). It decentralizes traditional basket management by enabling users to mint BSKT tokens, supported by a leaderboard, BSKT Lab, AlvaraX DEX, and governance through the Alvara DAO powered by veALVA.

Team:

- Callum Mitchell-Clark, Co-Founder
- Dominic Ryder, Co-Founder

Utility Token Features: ALVA, an ERC-20 token, provides access to:

- Staking for veALVA governance tokens, enabling voting in the Alvara DAO and gauge voting for BSKT reward allocation.
- Mandatory 5% inclusion in every BSKT minted, purchased from the open market.
- Subscription to the Alvara Analysis Tool for backtesting BSKT performance.

Milestones:

- Past: Development of the ERC-7621 standard, initial protocol design.
- Future: Launch of the BSKT Lab, integration with cross-chain solutions via Wormhole, deployment on additional EVM chains (timeline to be specified by the Alvara team, e.g., Q3 2024 - Q2 2025).
- Use of Baskets: Proceeds from the token sale (8,000,000 ALVA for the public round) will be allocated as follows (estimated based on project scope; to be confirmed):

- 50% to protocol development (e.g., smart contracts, cross-chain integration).
- 20% to marketing and community building.
- 15% to liquidity provision on AlvaraX and other DEXs/CEXs.
- 10% to operational expenses.
- 5% to legal and compliance costs.

2. Ecosystem

2.1 ERC-7621

Alvara's protocol is heavily structured around bringing utility to the new ERC-7621 token standard, created by Alvara's developers.

The ERC-7621 is a new token standard (<https://eips.ethereum.org/EIPS/eip-7621>) that facilitates the implementation of investment baskets on blockchain, also known as a BSKT (Basket Token Standard). A BSKT can hold any number of underlying assets within it, providing they are tokenized and available on a supported EVM blockchain or via an integration with Wormhole or similar (see [section 2.2.4](#))

ERC-7621 will become the go-to standard for on-chain basket management. Baskets that contain anything from REITs, FX, synthetics, derivatives, cryptocurrencies and any other tokenized asset can all be powered by the ERC-7621.

2.2 Blockchains

2.2.1 Ethereum

As the undisputed home of decentralized finance, Ethereum will be home to the ALVA token and protocol. ALVA will initially launch as an ERC-20 token on the Ethereum blockchain. Mirrored ALVA tokens will also be deployed on Avalanche C-Chain, with the possible addition of other EVM chains in the future. In addition to Ethereum, the protocol will run on several major EVM compatible chains.

2.2.3 Cross-Chain Capability

Through an integration with Wormhole (<https://wormhole.com/>) or a similar cross-chain

solution, assets from any blockchain will be able to be included in any ERC-7621 minted on Alvara's protocol.

3. Alvara Tokens

3.1 ALVA Token

ALVA is the protocol's native token; an ERC-20 utility token that serves multiple functions within the platform, including access to staking, governance and rewards. ALVA is also included in each BSKT minted on the platform at a nominal 5% weighting. This inclusion puts deflationary pressure on the token supply, as with each additional BSKT that is minted, a percentage of ALVA is removed from the liquid circulating supply. The included ALVA is market-bought, which increases buying pressure with every new BSKT creation.

ALVA has a maximum total supply of 200 million tokens. The original ERC-20 version of the token can be burned but not minted.

Classification of ALVA Token

The ALVA token is classified as a utility token under MiCAR. It is not an asset-referenced token (ART) or e-money token (EMT), as it does not maintain a stable value by referencing any asset or official currency. ALVA's value is market-driven, with utility in staking, governance, and BSKT inclusion. It is not a financial instrument, deposit, or other excluded category under Article 2(4) MiCAR, as it represents access to protocol services rather than ownership or debt rights.

3.1.1 Token Utility

The ALVA token has three significant use cases within the Alvara Protocol.

1. Access to Voting Power:

Users must stake their ALVA tokens on the staking platform to obtain veALVA. veALVA can be used within the Alvara DAO to vote on proposals. It can also be used during the 'gauge

weight voting' - the weekly event of allocating veALVA to whichever BSKT basket a user nominates to receive that week's inflationary ALVA rewards flow.

2. Access to Staking rewards:

The Alvara staking platform is discussed in detail in [section 5](#).

3. Inclusion in Every BSKT

Every BSKT minted on Alvara must contain the ALVA token at a minimum weighting of 5%. This ALVA will be purchased on the open market, rather than being fed from a reserve. Each time a BSKT is launched, as well as each time additional BSKT LPs are created by platform users, ALVA is market-bought for BSKT inclusion.

3.1.2 Token Distribution

The ALVA token has been distributed proportionally within the ecosystem as follows:

Allocation	Percentage (%)	No. ALVA
Seed Round	4%	10,000,000 ALVA
Private Round	4%	10,000,000 ALVA
Public Round	4%	8,000,000 ALVA
Strategic Partners	2%	4,000,000 ALVA
Airdrop	2%	4,000,000 ALVA
Team & Contributors	15%	30,000,000 ALVA
Grants & Builders	5%	10,000,000 ALVA
Foundation	10%	20,000,000 ALVA
DEX/CEX Liquidity	5%	10,000,000 ALVA
Affiliates & Marketing	5%	10,000,000 ALVA
BSKT Incentives	44%	88,000,000 ALVA
Total	100%	200,000,000 ALVA

Token Supply Mechanisms

The ALVA token has a fixed total supply of 200,000,000 tokens, with no additional minting permitted after the initial issuance. To reduce circulating supply over time, the Alvara Protocol implements a Buy Back & Burn Program: 10% of all platform fees (from BSKT Lab and AlvaraX) are used to purchase ALVA on the open market monthly (at randomized intervals to prevent manipulation), and these tokens are permanently burned. Additionally, users locking ALVA "forever" in the staking platform (see "veALVA" subsection) contribute to supply reduction, as these tokens are effectively removed from circulation. No other creation or destruction mechanisms exist unless altered via Alvara DAO governance (see "Alvara DAO").

3.1.3 Rights and Obligations of Token Holders

Rights:

Governance: Stake ALVA for veALVA to vote in the Alvara DAO and allocate weekly BSKT reward flows via gauge voting.

Staking Rewards: Claim rewards from the Staking Rewards Vault, funded by 10% of platform fees.

BSKT Inclusion: ALVA is included at a 5% minimum weighting in every BSKT, enhancing its utility.

Service Access: Use ALVA to subscribe to the Alvara Analysis Tool.

Obligations:

None beyond compliance with protocol terms of use.

Modification Conditions:

Rights may be altered via Alvara DAO governance proposals, approved by veALVA holders.

Redemption for Services:

Holders redeem ALVA by staking for governance, contributing to BSKT minting (market-purchased), or paying for the Analysis Tool.

Transferability:

ALVA is freely transferable on Ethereum and supported exchanges, with no restrictions. The temporary contract contains a greylisting feature against malicious actors, which will be renounced together with the proxy contract.

Supply Protocols:

Fixed supply of 200,000,000 tokens; no minting, with deflation via buyback and burn (10% of fees).

Protection Schemes:

No specific compensation schemes exist.

Applicable Law:

Governed by the laws of Cayman Islands, with disputes in Cayman Islands Courts.

3.2 veALVA

veALVA (voting-escrowed ALVA) is the Protocol's governance token. It is non-transferable and can only be obtained by locking up ALVA tokens on the staking platform. See [section 5.2](#) on locking periods.

veALVA is used to vote on all proposals within the Alvara DAO ([section 9.1](#)). It is also used for voting power on a weekly basis during the gauge-weight voting ([section 10.1.2](#)).

A user's veALVA decays linearly over the duration of their ALVA lock. The only exception is when a user adds to their lock, in which case the decay period is reset, or when a user locks their ALVA forever, in which case there is no decay.

3.3 ERC-7621

See [section 2.1](#).

3.4 BSKT LP Tokens (BSKT LPs)

When a user adds capital to any BSKT on Alvara's platform, they receive BSKT LP tokens in return which are representative of their stake in that BSKT. BSKT LP tokens are standard ERC-20 tokens. BSKT LP tokens are transferable and can be used in the following ways:

Utility:

BSKT LP tokens represent a user's stake in any given BSKT. They can be used to redeem underlying assets (or the value of the underlying assets in ETH/BNB/etc) from the BSKT at any time.

BSKT LP tokens in any decentralized BSKT can be used to vote and create governance proposals in that BSKT's DAO.

Liquidity can be added to any BSKT LP liquidity pool listed on AlvaraX.

BSKT LP tokens can be used in any scenario where ERC-20 tokens are currently used, and in doing so allow for entire protocols to be built on top of this base infrastructure layer.

BSKT managers can initiate staking platforms, derivatives, lending, DAOs and more for the holders of their BSKT's LP tokens.

3.5 AlvaraX LP Tokens (AX LPs)

AlvaraX LP tokens (AX LPs) are received in exchange for contributing liquidity to any BSKT LP token liquidity pool on the AlvaraX, Alvara's decentralized order book exchange. They work in exactly the same way as UNI-LP tokens. A user can add liquidity in the form of their BSKT LP token and the token in its trading pair (e.g. USDT, ETH).

3.6 Advanced Tokenomics

3.6.1 The Alvara Foundation Treasury

The treasury will hold a reserve of ALVA, ETH and stable coins that will be used to cover expenses of the Protocol once the capital raised during the presale rounds has been exhausted and only as required. The Foundation's revenue model is primarily fee based which will cover the ongoing costs of the protocol. At TGE (Token Generation Event), the treasury will comprise 10% of the total supply (20,000,000 ALVA), unlocked linearly over a 24 month period. The treasury will receive 80% of all the BSKT Lab transaction fees, and 30% of all AlvaraX transaction fees. Refer to [section 7.1.1](#) for a platform fees summary.

3.6.2 ALVA holders

ALVA holders can earn rewards simply by staking their ALVA tokens. The Staking Rewards Vault (see [section 5.1](#)) is fed with 10% of platform fees taken from Alvara's two key platforms - the BSKT Lab (see [section 4](#)) and the AlvaraX (AX) (see [section 6](#)).

3.6.3 ALVA Buy Back & Burn Program

Alvara's burn program is designed to decrease the total ALVA token supply over time, increasing the value of each ALVA token. 10% of all fees taken by the protocol will be used to purchase ALVA on the open market on a monthly basis (randomized intervals to prevent market manipulation). These ALVA tokens will then be burned, reducing the total ALVA supply and increasing the value of each ALVA token.

3.6.4 Summary of platform fees distribution

See [section 7.1.1](#).

3.6.5 Summary of deflationary mechanisms

- 10% of all platform fees (BSKT Lab & AlvaraX) are used to buy back and burn ALVA.
- Users who lock their tokens forever (burn pool) in the staking platform to receive “no-decay” veALVA tokens and maximum percentage from Staking Rewards Vault. (see [section 5.2](#)).

4. Alvara's BSKT Lab & ERC-7621 Mechanics

4.1 Introduction

At its core, Alvara's fundamental purpose is to provide key infrastructure for the creation of decentralized, meritocratic, tokenized investment baskets. It achieves this through its BSKT Lab where users can design and mint their own BSKT tokens.

4.2 Underlying Technology

Blockchain: Deployed on Ethereum, utilizing its Proof of Stake consensus for security and decentralization, with plans for cross-chain capability via Wormhole.

Token Standards: ALVA is an ERC-20 token; BSKT tokens use the ERC-7621 standard developed by Alvara.

Consensus Mechanism: Ethereum's Proof of Stake validates transactions and secures the network.

Incentive Mechanisms: Staking rewards (from 10% of fees) and fee-sharing (e.g., 1% AUM to BSKT managers) incentivize participation.

DLT Operation: Operates on the public Ethereum blockchain; no centralized control over the ledger.

Audits: Smart contracts audited by Quill, ensuring security and reliability (details available from Quill's report).

4.3 BSKT Lab

The BSKT Lab is the primary architectural arm of the protocol, and the critical piece of infrastructure that allows for the mass adoption of the new ERC-7621 token technology. Here users can design and deploy brand new tokenized baskets on the blockchain. Secondary users can utilize the BSKT Lab to create and redeem BSKT LP tokens in existing BSKT.

4.3.1 BSKT Deployment

BSKT Minting and Token Allocation Technical Overview

1. Wallet Integration and Token Contract Configuration

The BSKT minting process initiates with a secure connection between a user's web3 wallet (e.g., MetaMask or Trust Wallet) and the platform's backend infrastructure. Once authenticated, the user integrates the token contract addresses corresponding to the underlying assets intended for inclusion in the basket.

By protocol design, every basket minted on the Alvara platform is automatically configured to include ALVA tokens with a baseline weighting of 5%. The remaining 95% of the basket's allocation is dynamically configurable by the basket manager, permitting the incorporation of tokens from any supported blockchain, thereby enabling comprehensive cross-chain basket composition.

2. Token Weighting and Minimum Contribution Parameters

Subsequent to the integration of the token contracts, the aggregated weightings of the selected assets must total 100% before the BSKT token can be minted. A minimum contribution threshold of 0.1 ETH (or an equivalent value in any supported currency) is required at this stage. This requirement is critical to prevent the arbitrary and excessive generation of BSKT tokens, thereby maintaining systemic stability and protocol integrity.

The protocol requires the inclusion of an image file associated with the BSKT token (icon).

3. Token Allocation, Custodianship, and Liquidity Provisions

Upon successful minting, the BSKT token is allocated to the creator, conferring both management rights and entitlement to management fees. Concurrently, the creator receives BSKT Liquidity Provider (LP) tokens, which serve as a record of their initial contribution in the basket—subject to the minimum initial contribution of 0.1 ETH. These LP tokens are interoperable assets, tradable on the AlvaraX platform, and can be redeemed at their Net Asset Value (NAV) via the BSKT Lab mechanism.

It is critical to note that while the BSKT token represents a consolidated ownership and management instrument, the underlying assets remain non-custodial. Access to these assets is

strictly limited to those contributions made directly by the creator, as evidenced by the corresponding BSKT LP tokens, which document both the initial and any subsequent capital contributions.

4.3.2 Contribution Mechanism

The contribution mechanism allows users to create (mint) new BSKT LP tokens at the NAV of the underlying assets of any BSKT listed on Alvara's protocol.

The user pays all gas fees associated. A 0.5% fee is charged by the Alvara Foundation each time a user creates new BSKT LP tokens in a basket.

Users will input their desired investment amount. Lab algorithms then calculate the net quantity of BSKT LP tokens the user can create with the input investment.

4.3.3 Redemption Mechanism

The redemption mechanism allows users to redeem (burn) BSKT LP tokens in exchange for the value of the underlying assets.

The user pays all associated gas fees. A 0.5% fee is charged by the Alvara Foundation each time a user redeems BSKT LP tokens in a basket.

User inputs BSKT LP redemption quantity. Alvara algorithms calculate the net value a user can redeem. Users have the option to either:

1. Redeem their BSKT LP tokens in exchange for ETH (or equivalent)
2. Redeem their BSKT LP tokens in exchange for the underlying tokens included in the basket

4.3.4 Lab Fees

The total cost of initial creation of a new BSKT is 0.5% + any associated gas fees. During the minting process, a 0.5% fee is charged by the Alvara Foundation, 10% of which is used to buy and burn ALVA.

During both the contribution and redemption processes, a 0.5% fee is charged by the Alvara Foundation, 10% of which is used to buy and burn ALVA.

4.3.5 Management Fee Sharing Structure

On a monthly basis, 0.0833% (1%/12), by default, of each BSKT is converted to ETH and is paid to the BSKT manager. All fees and routing can be altered via successful proposals in the Alvara and BSKT DAOs.

4.4 Ethereum - ERC-7621 - Basket Token Standard

The ERC-7621 is a brand new token standard developed by Alvara developers. It offers investors the world's most popular investment vehicle, but on blockchain. Alvara BSKT have several distinct advantages when compared to traditional investment baskets:

Build your own

Design and launch your own tokenized basket via Alvara's BSKT Lab. Access Alvara's proprietary backtesting analysis software (see [section 4.9](#)) to help design your basket.

Proof of Ownership

The BSKT Tokens deployed via Alvara provide managers with a key to their basket's management rights and rewards structure. Transferable at Alvara's marketplace (see [section 4.5](#)), managers can, for the first time, sell their business on the blockchain.

Yield Generation

Every BSKT contains 100% collateralized underlying assets. These assets can be utilized in

yield generation strategies via platform integrations with Aave, Compound and other partner platforms, with the yield generated fed back into the baskets or distributed to Basket LP holders as dividends.

Advanced Leaderboard

Compete against fellow basket managers for top ranking positions on Alvara's leaderboard. Follow the most profitable basket managers to minimize risk exposure to the crypto markets.

Simplified Investing and Management

Underlying assets are purchased through a router linked to leading DEXs, making the costs of creating, redeeming and rebalancing much simpler and more efficient than manual alternatives.

4.5 Yield Generation

Alvara facilitates the utilization of DeFi lending protocols by basket managers (eg. Compound, Aave, dYdX) to lend the underlying assets of the BSKT and generate revenue from the interest accrued. Interest for pools using lending protocols compound every block or immediately after fees are paid. They're also compounded automatically.

All underlying assets can be utilized within yield generation strategies, providing opportunities exist. Revenue generated will be distributed to the BSKT LP holders on a monthly basis, or can simply be fed back into the BSKT, increasing the NAV of each BSKT LP token. The direction flow of any yield generated will be at the discretion of either the BSKT manager, or the BSKT DAO, depending on the governance structure.

At the initial creation of a BSKT, the creator can opt for whether or not to utilize lending protocols to earn additional yield on their basket's underlying assets. As their TVL grows and more participants join, the BSKT's DAO will ultimately determine whether or not lending practices begin, continue or cease. They can also decide whether or not the interest earned is claimable by the BSKT Token holders, or whether it is fed back into the BSKT to increase the NAV, or some combination of the two. APYs for each BSKT will be displayed under on the

BSKT details page.

BSKT managers and DAO members should take into consideration the liquidity of their basket's underlying assets when proposing yield generation activities to their LP holders via their BSKT DAO. Alvara will provide educational materials to assist basket managers in their decision-making and proposals regarding yield generation activities and liquidity requirements.

A sound default position on receipt of underlying assets is that they be held and not used for any staking, lending, yield enhancement or other function UNLESS the value of the token can be ensured and the liquidity of the token can be assured. If yield enhancement opportunities arise and the value of the token can be protected via insurance, collateral or other means, and the liquidity at short notice can be maintained, such an opportunity can then be taken advantage of.

4.6 BSKT Marketplace

The BSKT Marketplace is akin to an NFT auction platform. Any BSKT NFT holder can list their BSKT token on the marketplace. The advantage of buying a BSKT is that the holder receives both the management rights and revenue stream generated by the BSKT token through receipt of management fees as well as a percentage of trading fees if their BSKT's LP tokens are listed and trading on the AlvaraX.

The marketplace displays the following information for each BSKT listed for sale:

- Profit/Loss
- Decentralized (DAO)/Centralized
- Underlying assets
- Annual management revenue stream

BSKT owners can set a starting price and reserve when listing their BSKT Token for auction, as well as a “buy-it-now” price. Buyers can also use the “make-an-offer” button if they’d like to make an offer lower than the “buy-it-now” price. Sellers will set the duration of the auction and will be able to add a blurb describing their basket and any other information they would like to offer to try to secure a sale. All sales on the BSKT Token marketplace will be final as settlement occurs on-chain.

4.7 NAV and Calculation

An Alvara BSKT NAV represents the net value of its BSKT LP tokens and is calculated as the total value of the BSKT assets minus the total value of its liabilities, divided by the number of BSKT LP tokens.

For all BSKT trading on the AlvaraX, the NAV will be used to determine whether or not the BSKT LP tokens are trading at a premium or a discount.. If market price > NAV then the BSKT LPs are trading at a premium; if market price < NAV then the BSKT LPs are trading at a discount.

Correct determination of the NAV is very important as it is the calculation drawn upon when users are utilizing the contribution and redemption features.

$$2 \quad \frac{\text{Total Value Underlying Assets} - \text{ERC-7621 Liabilities}}{\text{Total Number of Outstanding ERC-7621 Shares}}$$

² (Net Asset Value – NAV Definition, n.d.)

BSKT Token Liabilities and TER Calculation

BSKT liabilities can be broken down into the following categories:

BSKT operational expenses:

- Management fees
- Trading fees
- Legal fees (if required within a BSKT manager's jurisdiction)
- Government fees (if required within a BSKT manager's jurisdiction)
- Accounting fees (if required within a BSKT manager's jurisdiction)
- Auditor fees (if required within a BSKT manager's jurisdiction)
- Software subscription fees
- Custodial service fees
- Marketing
- Employee/staff
- DEX liquidity provision
- CEX listing and market-making fees

Total Expense Ratio (TER) formula:

The total expense ratio (TER) describes a basket's operating costs relative to its assets.³ It is a measure of a basket's operational efficiency.

Investors pay attention to the expense ratio to determine if a basket is an appropriate investment for them after fees are considered.

TER is also known as the "net expense ratio" or "after reimbursement expense ratio."⁴

³ (Brown, n.d.)

⁴ (Brown, 2021)

$$\frac{\textit{Total Fund Costs}}{\textit{Total Fund Assets}}$$

4.8 BSKT Asset Potential

Potential BSKT structures are practically limitless. In fact the only limit is the speed at which real world assets are becoming tokenized. Alvara fully anticipates the deployment of BSKT via the BSKT Lab containing previously illiquid assets that have been made liquid through tokenization. Examples include gold, real estate, infrastructure, bonds and carbon certificates, however the opportunities are limitless.

What makes Alvara Protocol so revolutionary is that it will be expanding the scope in which tokenized baskets can be made and managed directly on-chain. BSKT will turn into fully fledged and governed decentralized baskets that operate via a truly meritocratic system where performance is incentivized. This blows away the traditional basket model as the Alvara Protocol will obey the laws of democracy, transparency and fair investment management.

The BSKT will also become the go-to standard for on-chain basket management, meaning that baskets that contain anything from REITs, FX, synthetics, derivatives, cryptocurrencies and any other tokenized asset can all be powered by the BSKT.

4.9 Alvara Analysis Tool

The BSKT analysis tool is Alvara's proprietary research tool for backtesting and evaluating the performances of custom built BSKT. This will be available to all BSKT managers for a nominal subscription paid in ALVA tokens. The tool currently pulls data from a Coingecko API so can be used to backtest any basket construction providing its underlying assets' data is listed on Coingecko.

Input: Mapping (tokens -> weights), backtest period, rebalance interval in days. Output: Performances Table - Return and Risk KPIs; Graphs - Tokens' returns correlation matrix, portfolio value over time, volatility comparison for a selected period.

4.10 Rebalancing

Ultimately whether or not a basket is rebalanced will be at the discretion of either the BSKT manager or the BSKT DAO, depending on the individual governance structure of each basket. The default position of the rebalancing of each BSKT is chosen by the creator at the time of creation. If the creator opts to rebalance automatically then rebalancing will take place monthly to the “strategic asset allocation”. These are the starting weights for the basket’s underlying assets: e.g. 30% BTC, 30% ETH, 35% ADA, 5% ALVA. “Actual allocation” will vary during the month based on price moves.

5. Staking Platform

Alvara’s staking platform is a critical piece of infrastructure within Alvara’s protocol. As well as rewarding ALVA stakers from the Staking Rewards Vault (SRV), the ALVA staking platform is the faucet from which veALVA is distributed to the community.

5.1 Staking Rewards Vault (SRV)

All users who stake their ALVA on Alvara’s staking platform will be able to claim from the SRV on a weekly basis. The vault will be fed from a percentage (10%) of all fees collected by the platform.

The amount each staker can claim will depend on the ratio of their staked ALVA as a percentage of the total staked, segmented by locking periods. For example: all users who have locked their tokens for 4 years will take from the same pool each week (20% of the total rewards vault). The rewards the user can claim will be the total rewards for their pool divided by the total ALVA staked across all pools multiplied by their staked ALVA balance. An individual user's weekly claimable rewards (CR) is based on the following equation:

$$CR = ((TR * PP) / PST) * UST$$

CR = Claimable rewards

TR = Total rewards

PP = Pool percentage

PST = Pool staked tokens

UST = User staked tokens

Users will pay all gas fees associated. A user does not need to claim every week, any unclaimed balance will accrue and be available for the user to claim at a later date.

The user can also choose to compound their rewards. In this event, their rewards will be added to their existing stake. This will give the user a larger percentage of the total pool, and therefore a larger percentage of the fee rewards at the following distribution. Compounding rewards is the only way a user can add more ALVA to their staked balance without resetting their locking period. Compounding will not replenish the user's veALVA balance.

5.2 Locking Periods

The duration of a lock determines which pool a user will claim from, and the number of veALVA a user receives. The longer a user locks their ALVA tokens, the more voting weight the user receives within the DAO, and the more weight they have with influencing the routing of rewards into the BSKT pool of their choice.

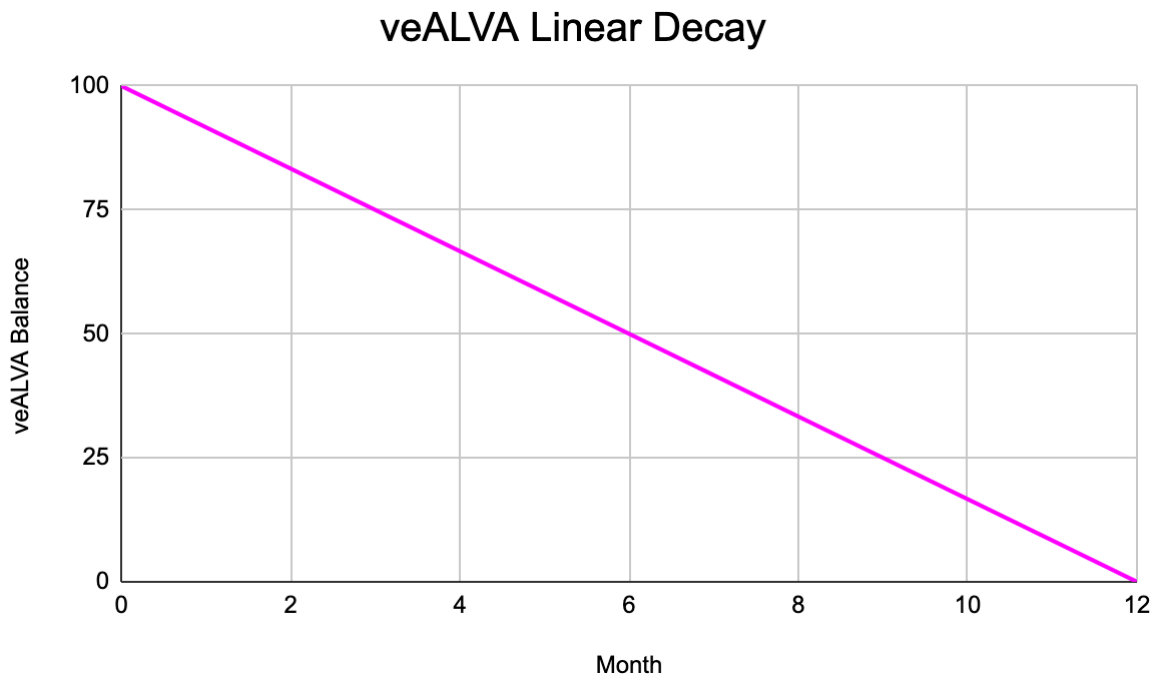
Locking periods and the corresponding rewards can be seen in the table below, using 100 ALVA as an example:

Locking Period	ALVA	veALVA	Staking Rewards sent to pool (% of total)
1 week	100	1	0%
1 month	100	5	0%
3 months	100	20	0.5%
6 months	100	50	1.25%
12 months	100	100	2.75%
18 months	100	200	4.5%
24 months	100	400	8.5%
36 months	100	800	12.5%
48 months	100	1000	20%

Forever	100	200 (no decay)	50%
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5.3 veALVA Linear Decay

With the exception of veALVA obtained by locking ALVA tokens forever which do not decay, a user's veALVA balance will decay linearly over the duration of the locking period. E.g. if a user locks 100 ALVA for 1 year and receives 100 veALVA, then at the end of day 1, their balance will automatically reduce to $(100/365.25 * 364.25)$ veALVA. At the end of day 2, their balance will reduce to $(100/365.25 * 363.25)$ veALVA. This will continue until their lock expiry date when their veALVA balance will be 0.



One method that can be used to reset the linear decay of a user's veALVA is to relock or add more to the lock. Additions to staked balance and duration of locking periods can be extended at any time, however users cannot stake balances with multiple expiration dates, i.e. if a user is staking 100 ALVA for 1 month, they cannot stake an additional 100 ALVA from the same wallet address for only 1 week.

The linear expiration of a user's veALVA balance will not impact proposals that have already been voted on and are awaiting decision, nor will it impact the numbers allocated during the gauge voting. E.g. if a user allocates 100 veALVA towards a specific BSKT pool on a Wednesday in week 1, those 100 votes will remain in place until the following Wednesday, regardless of the users balance throughout the week.

6. AlvaraX

AlvaraX is an orderbook DEX that allows for BSKT LP token trading. Users can deposit

liquidity in the form of BSKT LP tokens paired with ETH or other and receive fees from trading volume. AlvaraX allows for arbitrage opportunities and active trading against low fees.

6.1 Yield Farming

When a user adds capital to an BSKT on Alvara's platform, they receive in return BSKT LP tokens which are representative of their stake in the BSKT. BSKT LP holders are able to then deposit these tokens into the BSKT's AlvaraX liquidity pool, either on its own, or along with its paired asset (ETH/USDT/AVAX/BNB). In return, the liquidity provider receives AlvaraX LP tokens, representing their share in the liquidity pool. In exchange for providing liquidity, LP holders receive 30% of transaction fees. Each individual LP holder will receive a share of the fees charged on transactions within the pools they are providing liquidity to, proportionate to their LP holdings.

6.2 Fees

See [section 7.1.1](#).

7. Alvara Foundation

7.1 Business Model

Alvara's business model is based on income derived from charging users platform fees. There are fees for the deployment of a new BSKT, fees for the creation and redemption of BSKT LP tokens, and transaction fees on Alvara's decentralized order book exchange, the AlvaraX.

7.1.1 Table of Platform Fees

Platform	Function	Total Fee	Foundation	BSKT Manager	ALVA Stakers	AlvaraX LP holders	AlvaraX Liquidity Pool	Buyback and Burn
BSKT Lab	Deployment	0.5%	0.4%	0%	0.05%	N/A	N/A	0.05%
	Contribution	0.5%	0.4%	0%	0.05%	N/A	N/A	0.05%
	Redemption	0.5%	0.4%	0%	0.05%	N/A	N/A	0.05%
	Management	1% AUM p.a	N/A	1%	N/A	N/A	N/A	N/A
AlvaraX	Transaction	0.3%	0.09%	0.015%	0.015%	0.09%	0.06%	0.015%
Alvara Marketplace	Commission	2%	2%	0%	0%	0%	0%	0%

8. Security

The Alvara development team creates all code according to company standards and calls upon a separate internal audit team to conduct the first internal audit before proceeding to several external audits.

The first external audit is conducted by leading cybersecurity consultancy firm Quill (<https://www.quillaudits.com/smart-contract-audit>). They will carry out in-depth security audits on all ecosystem smart contracts and will also be carrying out full pentesting of the protocol's website and platform.

Together with Quill, Certik (<https://www.certik.com/>) will conduct an additional security audit on the smart-contracts and provide a second opinion. With two independent audit firms conducting security audits, Alvara maintains a high standard of blockchain security.

All audits are published on <https://github.com/Alvara-Protocol> once finalized.

need to add a lot here

9. Governance

9.1 Alvara DAO

Alvara is itself a decentralized autonomous organization (DAO), governed by ALVA holders who have staked their ALVA tokens in exchange for veALVA (see [section 5](#)). The DAO will make decisions regarding the management and development of the protocol, as well as which basket receives the highest percentage of ALVA rewards during the gauge voting - a weekly weighting event where users can allocate their veALVA balance towards any decentralized BSKT of their choice that has been deployed via Alvara's platform.

Once a user has obtained veALVA they can participate in voting and governing of the platform. Any visitors to the platform can view the proposals boards, however only holders of veALVA will have the opportunity to vote on the proposals. Proposals can be made by any user who holds a minimum of 2000 veALVA.

Alvara DAO Governance

The Alvara Protocol operates under a decentralized governance model managed by the Alvara DAO.

Decision-Making: ALVA token holders who stake their tokens for veALVA (see "veALVA" subsection) vote on key decisions, such as protocol upgrades and BSKT reward allocations, via an on-chain process. Each veALVA equals one vote. A majority vote (51% of votes cast, with a 20% quorum of total veALVA) approves decisions, which are executed automatically by a smart contract.

Token Holder Rights: Holders must stake ALVA to obtain veALVA and vote; a minimum of [insert minimum balance, e.g., 1 ALVA] is required to participate. No other rights are granted beyond voting.

Dispute Resolution: None specified.

9.1.1 Alvara DAO Voting

Who can vote?

Anyone holding veALVA can vote on a proposal.

Who can make a proposal?

Users holding more than 2000 veALVA can make proposals to be voted on.

Who can view proposals?

Anyone.

Quorum

The quorum for the Alvara DAO is 20%. The quorum can only be altered via proposals made to the DAO.

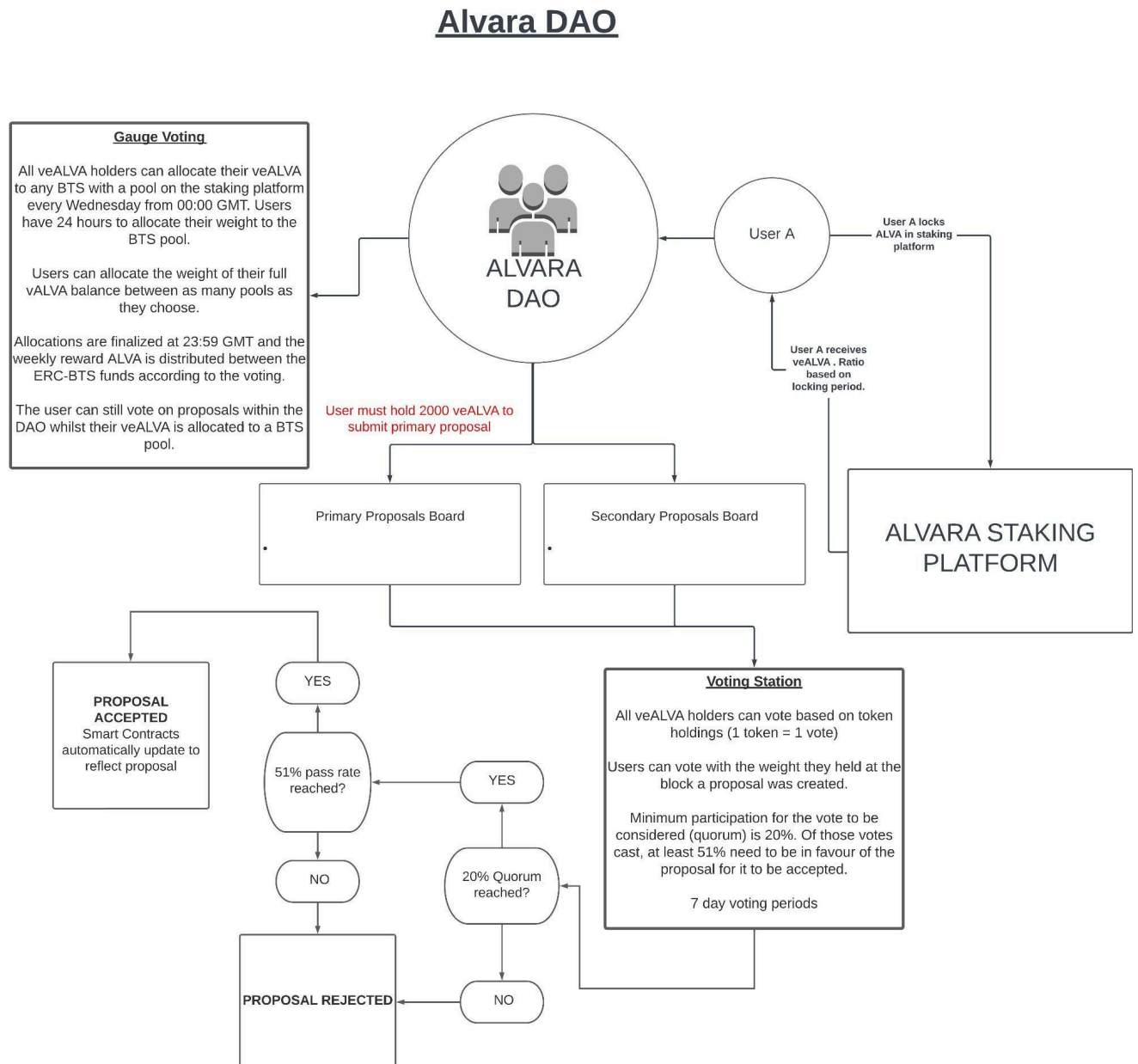
Pass rate

The pass rate (percentage of votes required for a proposal to be successful) for the Alvara DAO is 51%. The pass rate can only be altered via proposals to the DAO.

Reversals

Any enacted changes can be reversed by way of another proposal to reverse the change. This requires the same pass rate and quorum as any other proposal.

9.1.2 Alvara DAO Flowchart



9.2 BSKT DAOs

As well as providing a lab through which BSKT tokens can be minted, Alvara also offers BSKT creators the ability to set up their own DAO and manage it within the protocol.

9.2.1 BSKT DAO Voting

Who can vote?

Anyone holding the BSKT LP tokens can vote on a proposal. BSKT LP tokens are received in exchange for contributing to a BSKT's pool.

Who can make a proposal?

Only the BSKT creator (or current manager) can make primary proposals. Any BSKT LP token holder can make secondary proposals.

Who can view proposals?

The BSKT creator and connected BSKT LP token holders only.

Quorum

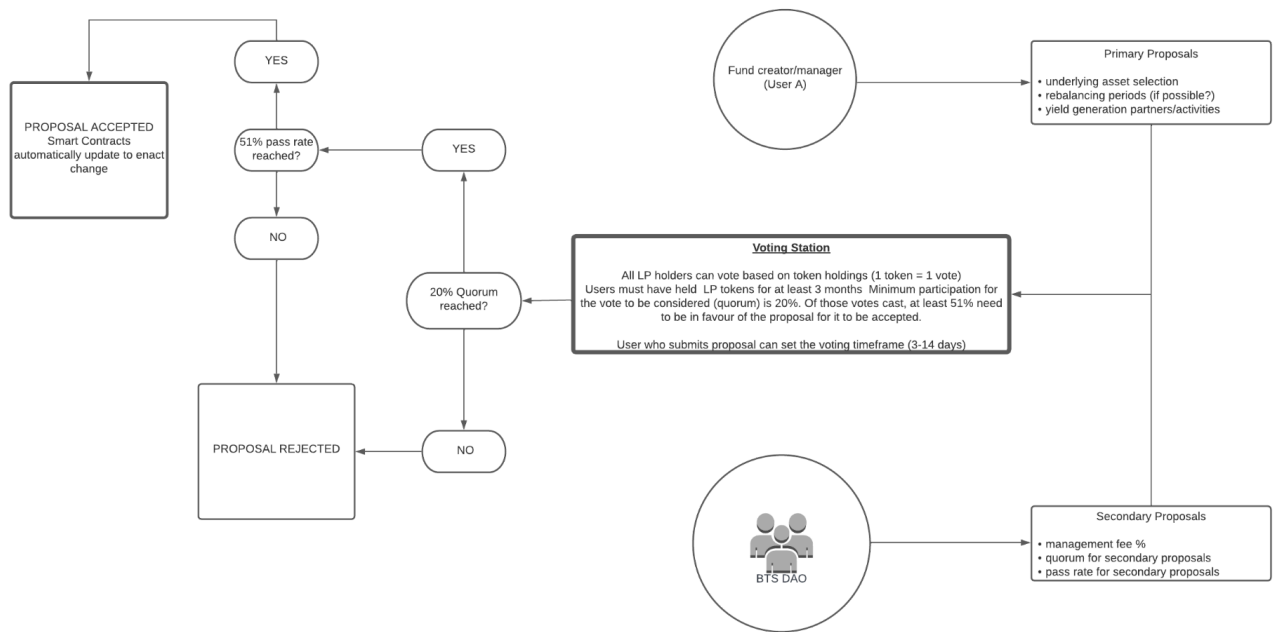
The quorum for BSKT DAOs is initially set by the BSKT creator whilst setting up the DAO. After this the quorum can only be altered via proposals to the DAO.

Pass rate

The pass rate (percentage of votes required for a proposal to be successful) for BSKT DAOs is initially set by the BSKT creator when setting up the DAO. After this the pass rate can only be altered via proposals to the DAO.

9.2.2 BSKT DAO Flowchart

BTS DAO



10. Alvara Core Behavior

10.1 Reward Distribution

10.1.1 BSKT Incentivisation

Forty-four (44%) of ALVA's total supply has been designated to incentivize participation in platform-minted BSKT tokens, and to foster a competitive sentiment within the protocol in order to drive progress. A total of eighty-eight million (88,000,000) ALVA will be awarded to the BSKT pools.

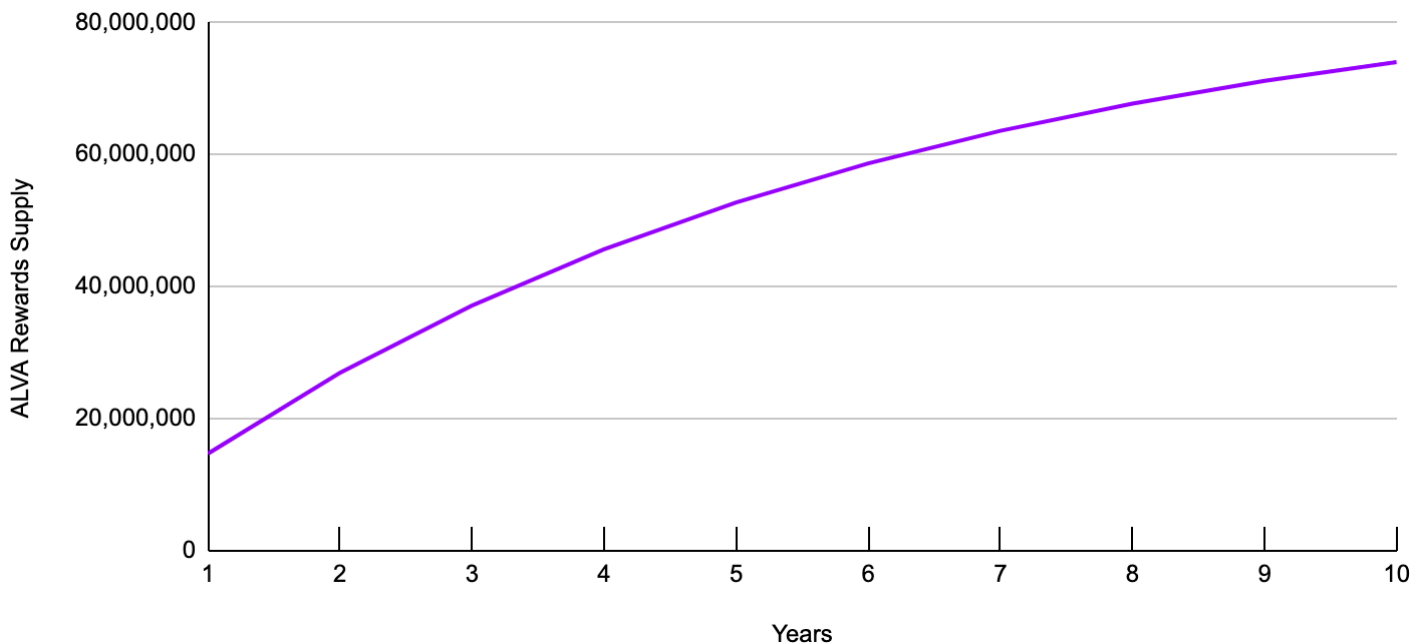
In year 1, a total of 40,163.17 ALVA will be distributed daily, split between the various pools according to the number of weekly votes given to each pool - this is known as gauge voting (see [section 10.1.2](#)).

Each year, on the anniversary of the first rewards distribution, the annual inflation rate will reduce by 16.6% of the previous year's total distribution. The reward supply will therefore be exhausted during the 31st year following platform launch, however according to the schedule over 50% will have vested by year 4, and over 80% by year 9. The distribution schedule is detailed in the table below:

Year	Daily Rewards (ALVA)	Yearly Rewards (ALVA)	Aggregate Rewards (ALVA)	Rewards (%)	Supply (%)
1	40,163.175906913	14,669,600.000000000	14,669,600.000000000	16.67%	7.33%
2	33,519.031232877	12,234,446.400000000	26,904,046.400000000	30.57%	13.45%
3	27,954.872048219	10,203,528.297600000	37,107,574.697600000	42.17%	18.55%
4	23,314.363288215	8,509,742.600198400	45,617,317.297798400	51.84%	22.81%
5	19,444.178982371	7,097,125.328565460	52,714,442.626363900	59.90%	26.36%
6	16,216.445271298	5,919,002.524023600	58,633,445.150387500	66.63%	29.32%
7	13,524.515356262	4,936,448.105035680	63,569,893.255423100	72.24%	31.78%

8	11,279.445807123	4,116,997.719599760	67,686,890.975022900	76.92%	33.84%
9	9,407.057803140	3,433,576.098146200	71,120,467.073169100	80.82%	35.56%
10	7,845.486207819	2,863,602.465853930	73,984,069.539023000	84.07%	36.99%
11	6,543.135497321	2,388,244.456522180	76,372,313.995545200	86.79%	38.19%
12	5,456.975004766	1,991,795.876739490	78,364,109.872284700	89.05%	39.18%
13	4,551.117153975	1,661,157.761200740	80,025,267.633485500	90.94%	40.01%
14	3,795.631706415	1,385,405.572841420	81,410,673.206326900	92.51%	40.71%
15	3,165.556843150	1,155,428.247749740	82,566,101.454076600	93.83%	41.28%
16	2,640.074407187	963,627.158623284	83,529,728.612699900	94.92%	41.76%
17	2,201.822055594	803,665.050291819	84,333,393.662991700	95.83%	42.17%
18	1,836.319594365	670,256.651943377	85,003,650.314935100	96.60%	42.50%
19	1,531.490541701	558,994.047720776	85,562,644.362655900	97.23%	42.78%
20	1,277.263111778	466,201.035799127	86,028,845.398455000	97.76%	43.01%
21	1,065.237435223	388,811.663856472	86,417,657.062311500	98.20%	43.21%
22	888.408020976	324,268.927656298	86,741,925.989967800	98.57%	43.37%
23	740.932289494	270,440.285665352	87,012,366.275633100	98.88%	43.51%
24	617.937529438	225,547.198244904	87,237,913.473878000	99.13%	43.62%
25	515.359899551	188,106.363336250	87,426,019.837214300	99.35%	43.71%
26	429.810156226	156,880.707022432	87,582,900.544236700	99.53%	43.79%
27	358.461670292	130,838.509656709	87,713,739.053893400	99.67%	43.86%
28	298.957033024	109,119.317053695	87,822,858.370947100	99.80%	43.91%
29	249.330165542	91,005.510422782	87,913,863.881369900	99.90%	43.96%
30	207.941358062	75,898.595692600	87,989,762.477062500	99.99%	43.99%
31	173.423092624	63,299.428807628	88,053,061.905870100	100.06%	44.03%

10 Year ALVA Rewards Inflation Chart:



This inflationary rewards model will distribute the ALVA token to the most active and involved members of the community. Rewards will be sent to a claim portal where BSKT LP holders can then connect their wallets and claim their percentage of ALVA rewards. Examples of how the rewards could be used include: distribution to the BSKT LP token holders with a weighting based design; rewards added to the BSKT's underlying assets, increasing the NAV of each BSKT LP token; rewards sold to purchase other underlying assets; rewards staked to earn additional veALVA, in order to obtain more voting weight and in turn, receive more ALVA rewards at the next distribution; or, rewards sent to a burn address, to increase the value of the underlying ALVA and benefit the whole ecosystem. Other uses could also be considered by the basket manager and/or the DAOs in order to best put the ALVA rewards to use.

10.1.2 Gauge Voting

All veALVA holders can allocate their veALVA to any BSKT managed on the protocol every Wednesday from 00:00 GMT. Users have 24 hours to allocate their weight to the BSKT pool. If they miss this period, they must wait until the following Wednesday before they can allocate their votes.

Users can allocate the weight of their full veALVA balance between as many pools as they choose.

Allocations are finalized at 23:59 GMT and the daily ALVA rewards will be distributed between the BSKT baskets each day from the Thursday following the gauge voting until the following Wednesday.

The user can still vote on proposals within the DAO whilst their veALVA is allocated to a BSKT pool.

10.2 Leaderboard

Alvara's advanced leaderboard provides the platform with a native ranking system, allowing basket managers to compete against one another for top ranking positions.

Alvara's leaderboard will rank all BSKT tokens in existence, according to different metrics, allowing users to see every BSKT basket on the blockchain and its basket manager's track record.

Each basket will provide the following data within the leaderboard: blockchain; underlying assets and their weightings; market cap; market price; share NAV; 24 hour volume; % change

(1 hour, 24 hour, 7 days); cumulative return (1 month, 3 months, 6 months, YTD, Annualized); max drawdown (%).

11. Legal Disclaimer

The information provided in this whitepaper and on the Alvara website does not constitute financial advice, trading advice, investment advice, legal advice, or any sort of advice whatsoever, and you should not treat any of the whitepaper or website content as such. The Alvara team does take every precaution to secure its token and protect investors and applies the same standards to vetting other projects that utilize its applications. Alvara does not endorse or recommend that any cryptocurrency be bought, sold, or held by you or any persons. Always do your own research and conduct your own due diligence to determine a project's success prospects. By purchasing ALVA, or any asset offered on the platform, you agree that you are not purchasing a security or investment. You also agree to hold the team harmless and not liable for any losses or taxes you may incur. You also agree that the team is presenting the token "as is" and is not legally required to provide any support or services. You should not have any expectation in any form, including guarantees of safety, price, functionality, or future feasibility of the ALVA token or any tokens launched on the Alvara platform. Always make sure that you comply with your local laws and regulations before you make any purchase.

Participation is at your own risk, and you assume full responsibility for assessing your financial capacity and risk tolerance. The Alvara team, its affiliates, and contributors are not liable for any direct, indirect, incidental, or consequential losses, including but not limited to financial losses, taxes, or legal penalties, incurred through token acquisition or Protocol use. Users must ensure compliance with all applicable local laws and regulations, as the Alvara team does not guarantee permissibility in any jurisdiction.

12. Risk Disclosures

Participation in the ALVA token offer and engagement with the Alvara Protocol entails inherent and significant risks. Prospective token holders and users are urged to carefully consider the following disclosures, which expand upon the preliminary risks identified in this

whitepaper. These risks are presented in accordance with Title II of Regulation (EU) 2023/1114 (Markets in Crypto-Assets, "MiCA"), ensuring that the information is fair, clear, and not misleading. Any decision to acquire ALVA tokens or interact with the Alvara Protocol should be made only after a thorough review of this whitepaper in its entirety, independent due diligence, and consultation with qualified financial, legal, and tax advisors as appropriate. The Alvara team does not provide financial, investment, legal, or other advice and expressly disclaims any liability for losses, taxes, or other consequences arising from participation.

1. Market Risks

The ALVA token operates within the highly volatile cryptocurrency market, exposing holders to substantial financial risks, including:

- **Price Volatility:** The value of ALVA may experience extreme fluctuations due to market speculation, macroeconomic factors, or shifts in investor sentiment, potentially resulting in the partial or complete loss of an investor's capital.
- **Market Manipulation:** Decentralized markets may be susceptible to manipulation (e.g., pump-and-dump schemes or whale activity), which could artificially inflate or depress ALVA's price, adversely affecting holders.
- **Economic Conditions:** Global economic downturns, inflation, or changes in interest rates may reduce demand for crypto-assets, impacting ALVA's value unpredictably.
- **No Guaranteed Value:** Unlike traditional financial instruments, ALVA has no intrinsic value or backing by physical assets, and there is no assurance that it will retain any value over time.

2. Regulatory Risks

The legal and regulatory environment for crypto-assets remains dynamic and uncertain, posing significant risks to ALVA and the Alvara Protocol:

- **Changes in EU Legislation:** The MiCA Regulation establishes a harmonized framework for crypto-assets in the European Union. However, future amendments or implementing acts may impose stricter requirements, such as enhanced disclosure obligations, capital requirements, or restrictions on token functionality, increasing compliance costs or limiting the Protocol's operations.
- **National Regulatory Variations:** While MiCA provides a baseline, individual EU

Member States retain discretion to enact more stringent rules. This could include bans on certain token-related activities, additional taxation, or licensing requirements, potentially disrupting ALVA's use or value in specific jurisdictions.

- **Non-EU Regulatory Actions:** Jurisdictions outside the EU (e.g., the United States, United Kingdom, or Asia-Pacific regions) may impose conflicting or prohibitive regulations, such as classifying ALVA as a security or restricting cross-border transfers, limiting its global adoption and market reach.
- **Classification Uncertainty:** Regulatory authorities may classify ALVA differently from its intended designation as a utility token (e.g., as a security, payment token, or hybrid asset). Such reclassification could trigger unforeseen legal obligations, fines, or operational restructuring, materially affecting the Protocol's viability.
- **Enforcement Actions:** Failure to comply with MiCA or other applicable laws—whether due to oversight, evolving interpretations, or third-party actions—could result in investigations, penalties, asset freezes, or reputational damage to Alvara, undermining investor confidence.
- **Tax Implications:** Token holders may face complex and varying tax obligations depending on their jurisdiction, including capital gains, income, or value-added taxes. The Alvara team is not responsible for advising on or ensuring compliance with such obligations.

3. Technical Risks

The Alvara Protocol relies on blockchain technology and smart contracts, which are subject to inherent technical vulnerabilities:

- **Smart Contract Vulnerabilities:** Despite audits, undetected bugs, coding errors, or exploits in the smart contracts underpinning the BSKT Lab, AlvaraX, or other components could lead to the loss of baskets, unauthorized access, or protocol disruption.
- **Blockchain Failures:** The Ethereum blockchain, on which ALVA and the Protocol initially operate, may experience network congestion, forks, 51% attacks, or other failures beyond Alvara's control, potentially rendering tokens inaccessible or disrupting Protocol functionality.
- **Cross-Chain Risks:** Integration with cross-chain solutions (e.g., Wormhole) introduces additional complexity and points of failure, such as bridge exploits or interoperability issues, which could compromise assets held within ERC-7621 baskets.
- **Cybersecurity Threats:** Hacking, phishing, or distributed denial-of-service (DDoS)

attacks targeting the Protocol, its website, or users' wallets could result in the theft of ALVA tokens, BSKT LP tokens, or underlying assets, with no recourse for recovery.

- User Error: Incorrect wallet configurations, loss of private keys, or failure to follow Protocol instructions may lead to irreversible loss of access to tokens or assets, for which the Alvara team bears no responsibility.

4. Operational Risks

The successful execution and adoption of the Alvara Protocol depend on various operational factors, each carrying inherent risks:

- Development Delays: Unforeseen technical challenges, resource constraints, or shifts in priorities may delay the rollout of key features such as the BSKT Lab, AlvaraX, or cross-chain capabilities, reducing the Protocol's functionality and competitive edge.
- Team Execution: The Protocol's success relies on the expertise and coordination of the Alvara team and its contributors. Departure of key personnel, mismanagement, or failure to attract talent could impair development and operational outcomes.
- Competition: The decentralized finance (DeFi) sector is highly competitive, with rival protocols potentially offering similar or superior basket token solutions. Failure to differentiate or maintain user adoption could diminish ALVA's utility and value.
- Third-Party Dependencies: Reliance on external providers (e.g., decentralized exchanges, liquidity pools, or auditing firms) introduces risks of service interruptions, insolvency, or inadequate performance, which could disrupt Protocol operations.

5. Liquidity Risks

The ability to buy, sell, or trade ALVA tokens and BSKT LP tokens is subject to market conditions, posing liquidity-related challenges:

- Limited Market Liquidity: ALVA and BSKT LP tokens may face low trading volumes or insufficient market depth, making it difficult to execute transactions at desired prices or volumes, particularly during periods of market stress.
- Exchange Availability: There is no guarantee that ALVA or BSKT LP tokens will be listed on centralized or decentralized exchanges, or that such listings will persist, potentially restricting access to liquid markets.
- Premium/Discount Volatility: BSKT LP tokens traded on AlvaraX may deviate significantly from their Net Asset Value (NAV), trading at a premium or discount due to supply-demand imbalances or speculative activity, affecting their perceived value.

- **Withdrawal Constraints:** Redemption mechanisms for BSKT LP tokens may be delayed or limited by gas fees, liquidity pool constraints, or underlying asset availability, hindering timely access to baskets.

6. Project Implementation Risks

The ambitious scope of the Alvara Protocol introduces risks tied to its deployment and long-term viability:

- **Feature Deployment:** Delays or failures in launching critical components (e.g., the BSKT Lab, AlvaraX, or cross-chain functionality) could undermine the Protocol's promised utility, reducing investor confidence and ALVA's value.
- **Adoption Shortfalls:** The Protocol's success hinges on widespread user adoption by basket managers, investors, and liquidity providers. Failure to achieve critical mass could limit the ecosystem's growth and the effectiveness of its meritocratic leaderboard.
- **Scalability Challenges:** As transaction volumes or basket complexity increase, the Protocol may encounter scalability bottlenecks on Ethereum or other supported blockchains, impacting performance and user experience.
- **Discontinuation Risk:** If the Protocol fails to generate sustainable revenue (e.g., via platform fees) or attract sufficient capital, development may cease, rendering ALVA and associated tokens valueless and unexchangeable for promised services.

7. Environmental Impact Considerations

The Alvara Protocol operates on Ethereum's proof-of-stake (PoS) blockchain, which transitioned from proof-of-work (PoW) in September 2022 to reduce energy consumption. While PoS is designed to be energy-efficient compared to PoW systems, prospective token holders should note:

- **Residual Environmental Footprint:** Ethereum's PoS still requires computational resources and electricity, contributing a minor environmental impact that may concern sustainability-focused investors.
- **Cross-Chain Variability:** Integration with other blockchains via Wormhole or similar solutions may involve networks with differing consensus mechanisms, potentially increasing the Protocol's indirect environmental footprint.
- **Regulatory Scrutiny:** Emerging EU sustainability regulations may impose reporting or mitigation requirements on crypto-asset projects, potentially raising operational costs.

8. Additional MiCA-Required Disclosures

In compliance with MiCA Title II, the following mandatory warnings and clarifications are reiterated and expanded:

- **No Investor Protection Schemes:** ALVA tokens are not covered by investor compensation schemes under Directive 97/9/EC or deposit guarantee schemes under Directive 2014/49/EU. Losses incurred are borne solely by the token holder.
- **Not a Financial Instrument:** This offer does not constitute an offer or solicitation to purchase financial instruments as defined under EU law. ALVA is presented as a utility token, not a security or investment product.
- **No Prospectus:** This whitepaper does not constitute a prospectus under Regulation (EU) 2017/1129 or any other offer document under Union or national law, and it has not been reviewed or approved by any competent authority in an EU Member State.
- **Loss of Value:** The ALVA token may lose its value in part or in full, with no recourse to the Alvara team or any third party for recovery.
- **Transferability and Liquidity:** There is no assurance that ALVA or BSKT LP tokens will remain transferable or liquid, particularly in the event of regulatory restrictions, technical failures, or market conditions.
- **Project Failure:** In the event of discontinuation or failure of the Alvara Protocol, ALVA tokens may not be exchangeable for promised goods or services, and their utility may be permanently impaired.