

STAR ATLAS

White Paper

Your guide to the universe!

Version 1.0.0



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Introduction

Star Atlas is a virtual gaming metaverse based in the year 2620. In this distant future, three major factions have emerged; (1)The MUD Territory governed by humankind, (2)The ONI Region as a consortium of alien races, and (3)The Ustur Sector controlled by sentient androids. These factions are in an ongoing struggle for resources, territorial conquest, and political domination. You, a faction citizen of Star Atlas, will have the ability to influence the outcome of this intergalactic conflict while creating the opportunity to earn rewards for your contributions. This document describes the adventure ahead for new recruits.

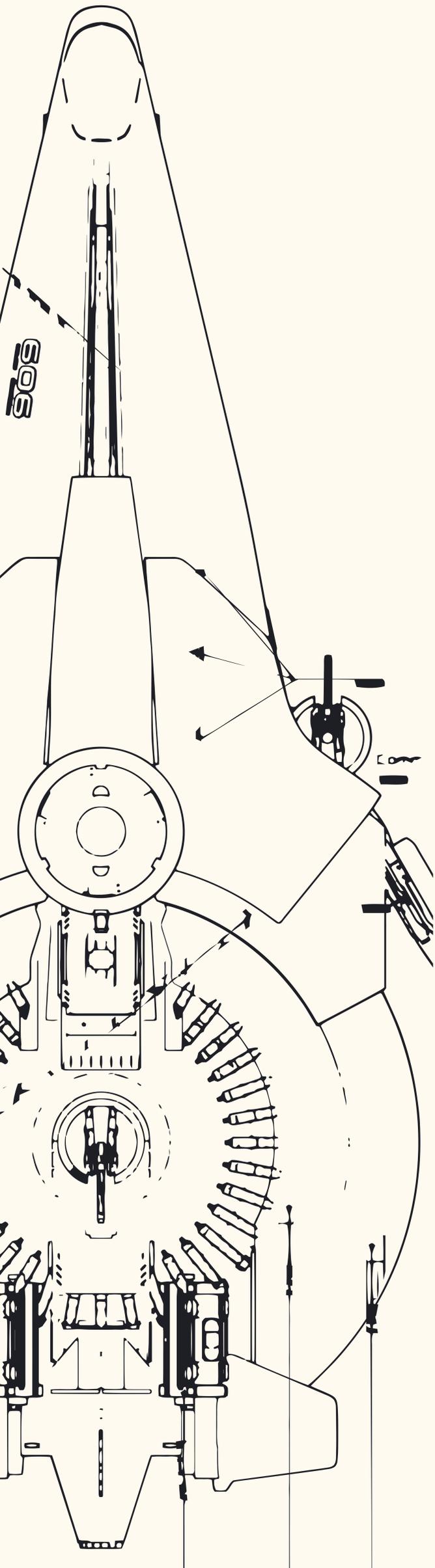
The metaverse introduces a unique gaming experience through the combination of both traditional core game and blockchain mechanics.

Blockchain Mechanics

- 01 Blockchain based in-game currencies: ATLAS & POLIS
- 02 Fully decentralized, non-fungible token (NFT) asset ownership
- 03 Mining revenue based on territory control
- 04 Real-time smart contract execution of game scenarios
- 05 Built on Solana blockchain protocol
- 06 DeFi directly integrated into game interface via Serum
- 07 Decentralized Digital currency exchange and automated market making (AMM) ingame
- 08 NFT marketplace for the direct peer-to-peer exchange of assets
- 09 On-chain governance model, providing players with the ultimate level of political control
- 10 Play-for-Keys™ gameplay: high risk, high reward style with player assets at stake

Core Game Mechanics

- 01 Grand strategy space exploration
- 02 Land and territory control
- 03 Vehicle and fleet control, including a broad variety of space ships
- 04 Space and land-based mining operations
- 05 Player vs. environment missions
- 06 Player vs. player combat
- 07 Dynamic career system harnessing specialized equipment
- 08 Built in Unreal Engine 5
- 09 VR enabled





Purpose of this Paper

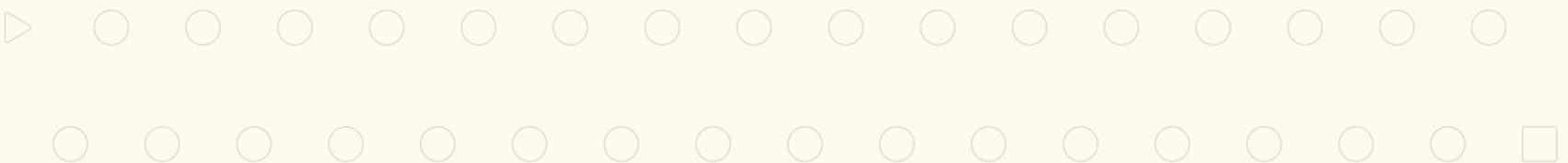
“The adventure awaiting within Star Atlas presents an opportunity for players to create wealth in-game that transcends virtual borders. Riches attained can easily be exchanged with other players, or sold for digital currencies like Bitcoin, Ether, USD Tether, and more.”

— Michael Wagner
AUTOMATA CEO

This paper provides a high-level overview of the blockchain-based, space-themed, video game: Star Atlas. The core of this paper presents compelling applications from blockchain technology and how it can be utilized to create an engaging video game. Both technologies symbiotically fuel each other to create a cohesive experience online and offline. This is not intended as a deep technical white paper, but an introduction to Star Atlas for a general business reader and aspirational Star Atlas spaceship captain.

Intended Audience

Entrepreneurs, executives, cryptocurrency enthusiasts, video gamers, space travel enthusiasts and economists.





03

What is Star Atlas



Space Age Technology

Major breakthroughs in recent technology created an opportunity for a futuristic science fiction experience that is entirely new and groundbreaking. Real-time graphics technology using Unreal Engine 5's Nanite allows for cinematic quality video game visuals. Blockchain technology using the Solana protocol established a largely serverless and secured gameplay experience. Non-fungible tokens obtained and traded within Star Atlas creates an economy that replicates the tangibility of real world assets and ownership.

○ Blockchain Mechanics

Blockchain is a decentralized, immutable database that is secured by its network. The larger the network the more secure it is. Because it's immutable and decentralized this allows the data it stores to represent a digital form of a tangible asset. The result is that assets owned on a blockchain cannot be replicated or destroyed. This makes currency a viable use case for the blockchain. However, we plan to use a non-fungible form of blockchain units to represent your assets in Star Atlas.

○ Serverless Massively Multiplayer Online Game

The Solana blockchain's breakthrough in transaction throughput sets the stage for a largely serverless online multiplayer game. Solana has an extremely high throughput allowing 50,000 transactions per second (currently, with expectations of increases as the network grows). This feature allows gameplay interactions between assets to be recorded in real time and bypasses the need for a robust traditional server backend for online multiplayer games.

○ Unreal Engine 5

Nanite graphics technology has been in the works for over a decade and is set to release in 2021. Up until Nanite, polygons have bottlenecked the real-time rendering bandwidth. With Nanite compression we have the ability to simulate cinema-quality real-time environments with the capability of managing billions of polygons.





03

What is Star Atlas



Hybrid Space Genre

The way a blockchain network is designed closely mimics the basis for the genre of Star Atlas. Mining or staking is the core of how blockchain assets are proven to be legitimate and tangible. To discover mined assets requires exploration on the part of a miner to unlock value. People set up mining or staking nodes and plug them into the blockchain network to enhance the network while also earning value from it. The hybrid experience of Star Atlas closely mimics the nature of how blockchain technology functions.

○ Grand Strategy

The grand strategy genre of video games encourages claim staking to expand your empire and install strategic trade routes using an offensive and defensive tactical plan of action. In this mode the player primarily interacts with a dynamic overview of the charted and uncharted regions of space via the map view aka the Star Atlas.

○ Exploration

To augment that grand strategy, Star Atlas enables players to captain deep-space, crewed spaceships to scan and discover celestial and terrestrial assets. Once discovered, rich claims that are staked can be mined, refined and traded through a network of commercial mining installations, refineries, and the Universal Marketplace. Exploration will lead to many other surprises in the outer limits of space. In this mode the player primarily interacts with a top down space view showing their spaceship exterior with the ability to go into an x-ray view to see the interior of the ship and the crew performing their individual tasks. Players can also captain and pilot the ship manually through the first person cockpit/bridge view. Cockpit view is also suitable for seated virtual reality gaming.

○ Role-Playing Game

The first principle driving the entire economy of Star Atlas is the mining gameplay. The wealth derived from mining creates many other branching revenue streams for players to contribute to and establish a career. From trading raw and refined ore, to cargo hauling, to crafting retail components, there is a broad range of career choices a player can embody and advance within the specializations of that career.

○ Space Flight Simulation

The beauty of space science-fantasy adventure is to manually pilot or captain your own spaceship into the vast unknown. For exploration, combat and various other role-specific game mechanics, the cockpit view gives a sense of ownership and grounding to a player's chosen ship purchases. This immersive first person, seated view will allow players to utilize equipment such as flightsticks, throttles, multi-functional button control panels, head tracking hardware, and most importantly, virtual reality head-mounted displays.

Birth of a Universe

To complete the full vision of the Star Atlas universe, fundraising in the form of asset sales will take place in several phases based on development milestones.



Asset Sale Phases

1

PHASE 01

Galactic Asset Offering (GAO)

- Game assets sold via the Star Atlas Marketplace will not be playable until Phase 2, though open trading with other players and traders will be immediately available.
- Ethereum based assets will transfer to Solana via Wormhole, the Solana-Ethereum bridge.¹

2

PHASE 02

Browser Mini Game

- A minimum viable product version of Star Atlas will be launched as a browser-based minigame. Players and collectors can play and purchase in-game assets.
- In-game assets can be utilized immediately in the minigame. Assets purchased will be Solana-based in the minigame phase and will be configurable within the context of the Star Atlas' feature set.
- Ongoing revenue via minigame sales.



Birth of a Universe



Asset Sale Phases (cont.)

3

PHASE 03

Shipyard Module Sale

- After the successful launch of Phase 2, full production commences on Star Atlas in Unreal Engine 5. The first milestone of this game version will be a functional Shipyard Module. This mode allows players and collectors to view their final, in-game assets but is limited to the shipyard of their chosen faction's central space station. These assets will include crew, components and ships.
- Another wave of assets to be publicly purchasable will be made available.
- Ongoing revenue via minigame sales.

4

PHASE 04

Final Pre-Sale at Beta

- Once the beta version of Star Atlas is deployed, all remaining pre-live assets go on sale.
- All assets purchased in this phase are immediately and fully playable in a beta build of Star Atlas.



Birth of a Universe



Asset Sale Phases (cont.)

5

PHASE 05

Ongoing Sales

- Ongoing sales of newly introduced assets will be limited to new concepts and post-live production ready assets developed by the Star Atlas development team.
- All production ready assets are no longer purchasable upon full launch of the live version of Star Atlas. This does not include the remaining phase 3 beta sale assets.
- Star Atlas' parent company receives transaction tax from all ingame trades.

Salvage Wars

- Salvage Wars is an in lore game that players can participate in. It allows players to bid on containers full of salvaged assets. The contents of these containers are unknown before purchase. The weight of the containers and likelihood of quality content is known before purchase.



Birth of a Universe



Asset Use Cases

Interested customers of pre-launch assets have several avenues to exercise the value of their purchases.

In-game Professional Careers

Pre-purchased assets provide convenience for mining, rescue, pirating, freight, bounty hunting, imperialism, crafting, retail, ship storage fees, refining fees, repair, refueling, defense, offense, and jump point travel fees.

Asset Brokerage

Asset Speculator: purchasing early assets to sell later, as opposed to actual use in game.

Node Staking

Idle staking in safe zones for passive portfolio growth.

Alternate Gaming Clients

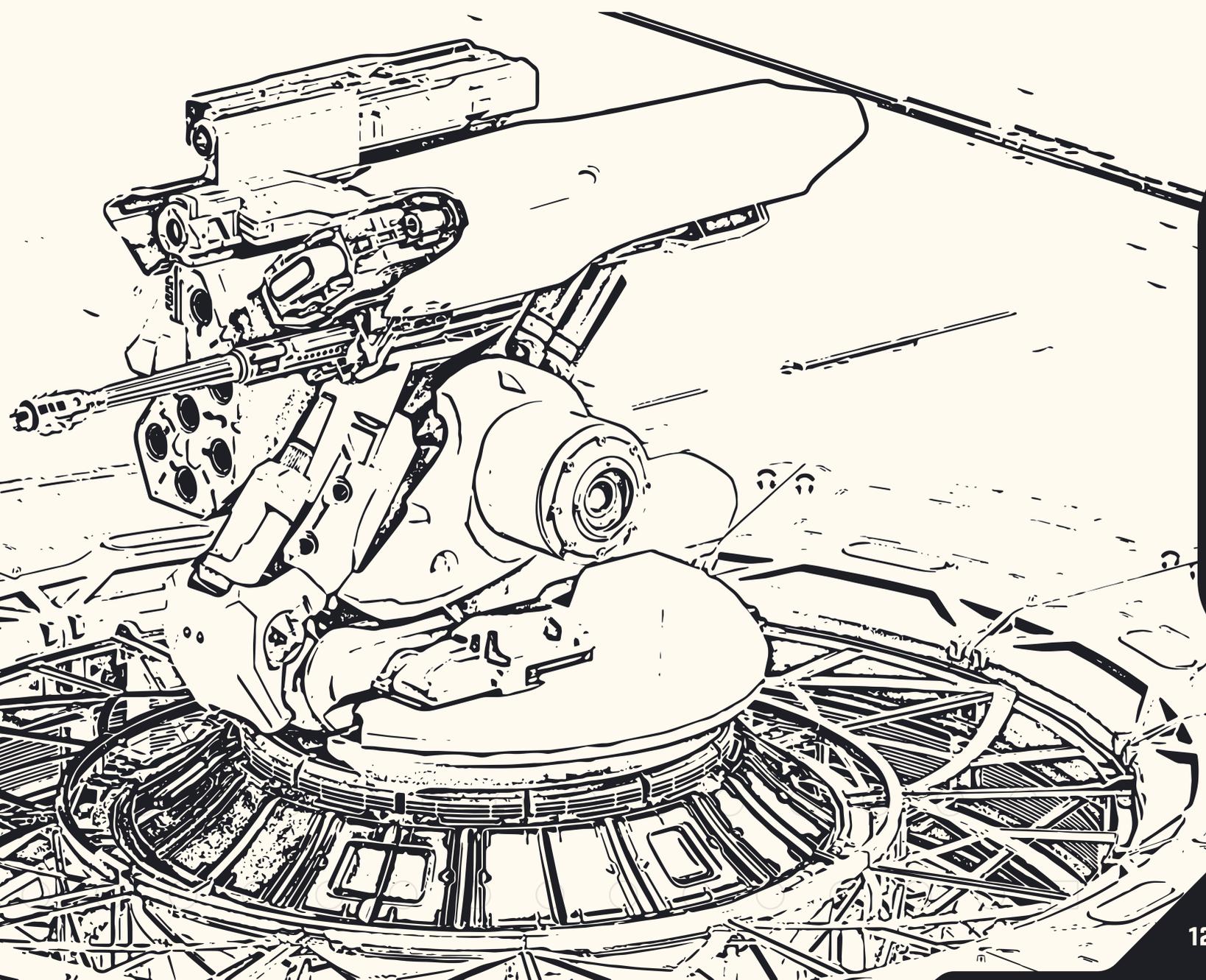
Open source blockchain allows other connected clients to utilize the mechanics of Star Atlas assets in an alternative means of exchange that we do not actively review.



Gameplay Pillars

▶ Faction Security Zones

New players choose a faction and start in a faction-secured safe zone. This allows the player to explore all the basic functions of the game except destructive based gameplay loops such as rescue, combat and salvage. Once the player is sufficiently confident enough to venture out, there is a medium tiered safety zone that is secured by mercenary groups. Combat is now allowed but your assets will be reset if destroyed. The final distant zone of Star Atlas is a wild frontier where full combat and the destruction of assets is a permanent event. However, only a portion of assets in combat are destroyed permanently. For example, the results of a destroyed ship in combat is that the ship asset is decimated into components, scrap, escape podded crew members, and a certain amount is lost forever.



Gameplay Pillars

▶ Deep Space Exploration

All visible stars are real assets and can be visited. Although some distant stars can be prohibitively distant and will require proper fueling to reach. There will be no actual skybox so exploration can be done visually. This gives all players open exploration to go anywhere in the Star Atlas universe. Players will pilot their ships manually to uncover all the riches the universe has to hide using their upgradable scanning modules. Higher tier scanning equipment performs deeper and broader and leads to a higher amount of assets that will be discovered. Scanning data can be acted upon and staked or can be placed on the marketplace to be sold.



Gameplay Pillars

▶ Combat

Ships are outfitted with weapon turrets and missile bays. Turrets can be energy, ballistic or disruption type to target different components of enemy ships and installations. Turrets are powered by a power supply and protected by shields and a hull. When encountering another enemy ship, if scanned properly, the player can target subsystems to get an advantage in a fight. Ships can also target land and space based installations to free up competitor's claims. However, those installations can also have their own weaponry installed ready for attacks. All players can mark their stance as aggressive or passive to signal their desired combat engagements. Passive stance affords a shield and maneuverability buff to allow for escape if attacked without formal declarations.

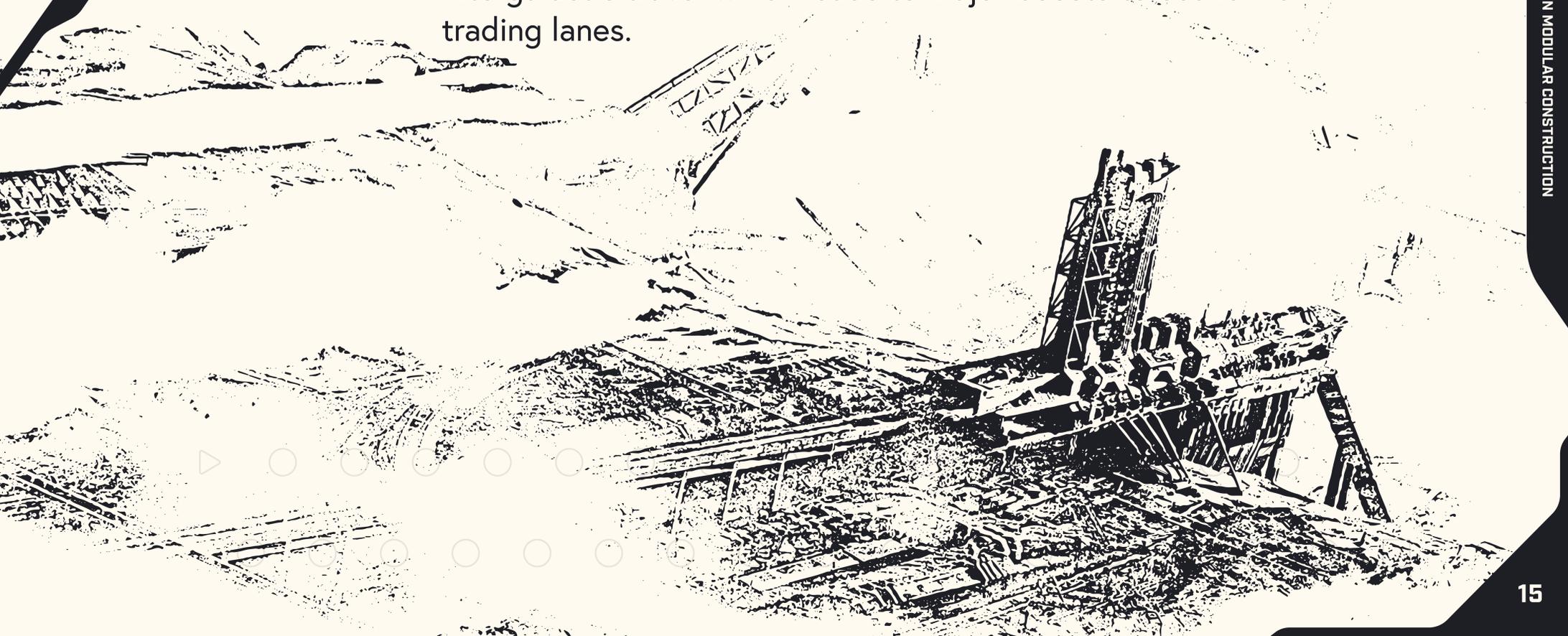




Gameplay Pillars

▶ Station Modular Construction

Mining installations have adjacent installations powering and protecting their mining claim. Space stations have the same installations but with major enhancements in the form of decks. Each deck enhances the functionality of the space station and unlocks the associated features that players engage with in that local station. Decks include Commerce (for storage and trading), Shipyard (for ship manufacturing, repairs, refueling, configuration and docking), Refinery (for refining raw ore into higher tiers), Hangar (for long term storage of ships), Retail (for crafting and selling components and advanced materials), University (for training and recruiting crew), Cargo (for storing materials and components) and Defensive (for building turrets to defend the space station and its inhabitants). Space stations with commerce decks will be required to connect to the universal marketplace to sell low tier ore and items. Cargo and refinery decks will be needed to access higher tier ore, advanced materials and components requiring physical intergalactic shipping. If stars are owned to the point of building a Dyson sphere then the owner can build a jump point. Jump points allow independent systems to have immediate travel. Jump points provide a significant time cut to intergalactic travel which leads to major boosts to economic trading lanes.

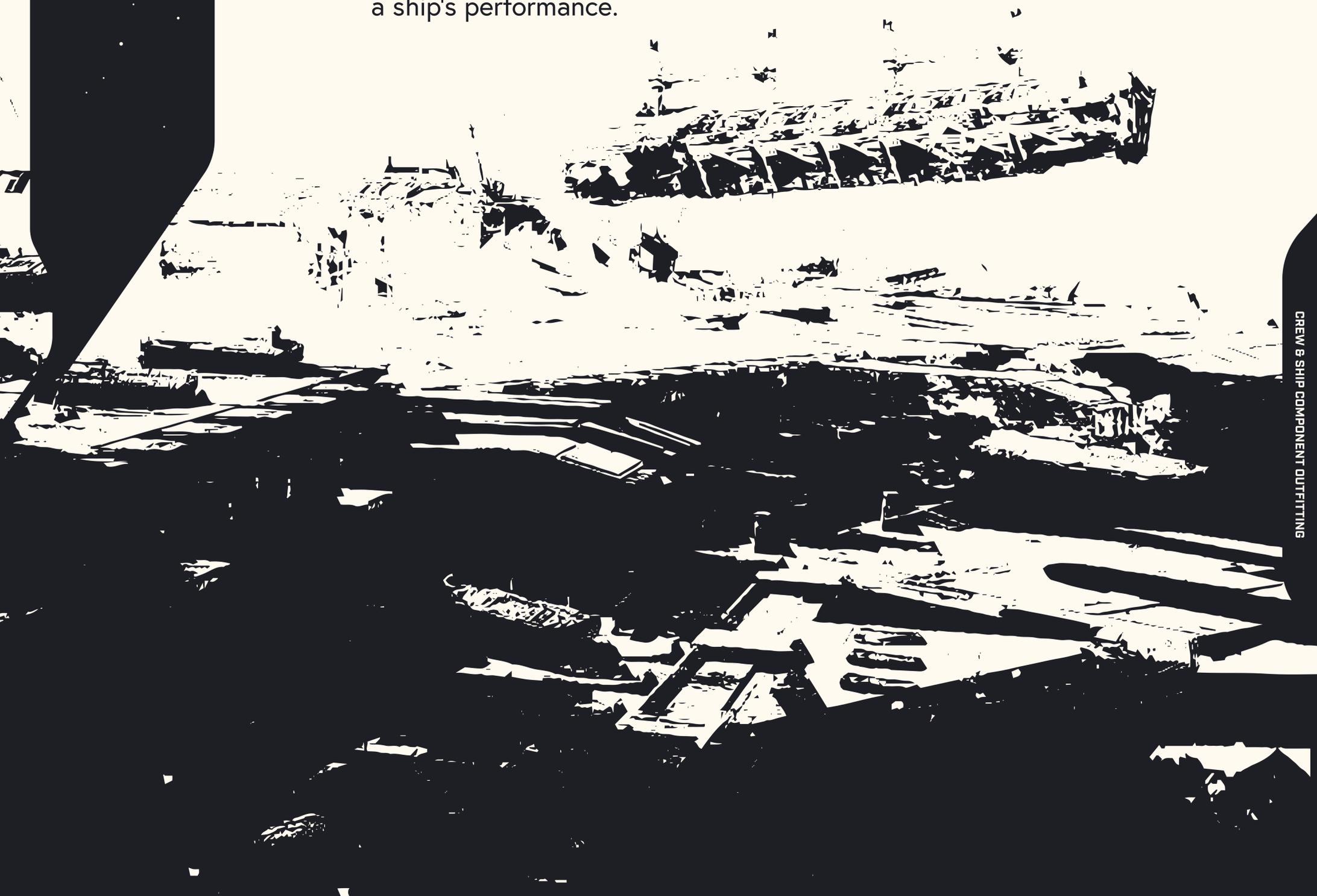




Gameplay Pillars

▶ Crew & Ship Component Outfitting

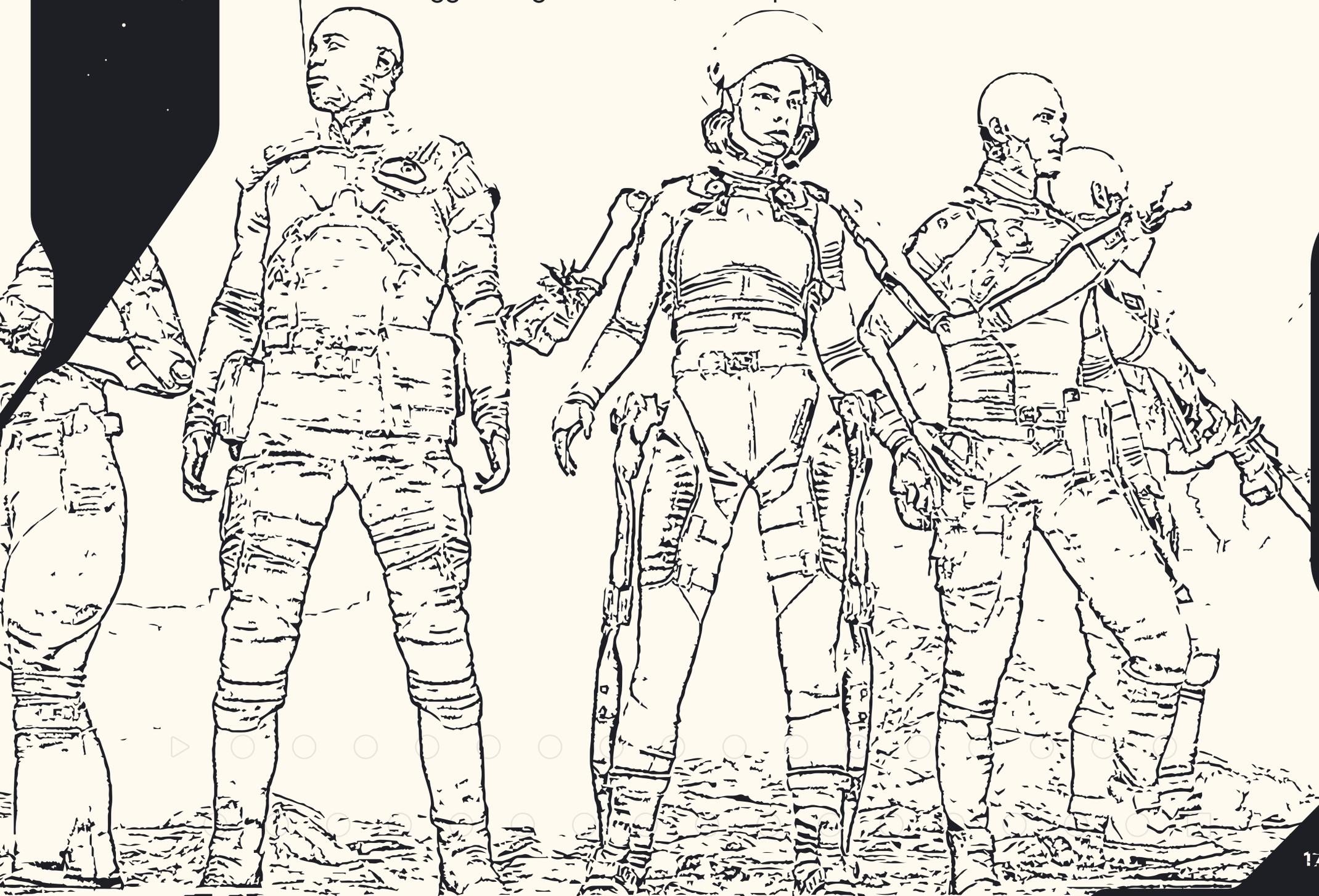
All ships contain components and crew members that enhance the features and stats of each ship. Ships have native aptitudes for different gameplay features. This means that ships can be fitted with specific tiered components that enhance the ship's functionality within those professional roles. Individual crew members also enhance specific functionalities with their aptitudes that they advance via the University Decks. Crew members that trained together in University or previously on ships will buff each other when placed on the same ship's crew. Crew continuously builds up shared touring duty and receive buffs over time. Matching crew incorrectly can cause debuffs to a ship's performance.



Gameplay Pillars

▶ Professions

Professional Roles manifest in their chosen ship roles. Players can earn in game by having the correct ships, crew and components for their desired roles. Examples of roles: Transport, Rescue, Freight, Repair, Construction, Refueling, Miner, Salvage, Entrepreneur, CEO, Broker, Bounty Hunter, Pirate, Smuggler, Data Runner, Commander, General, Mercenary, and Scientist. Crew members within a ship also have individual station roles such as: Pilot, Engineer, Repair, Scanner, Science, Gunner, Mercenary, Rescue, Power Manager, Janitor, Cargo Foreman, Hangar Foreman, Salvage Operator, Science Officer, Military Commander, Military General, Private, Sargent, Rookie, Smuggle Cargo Foreman, and Captain.



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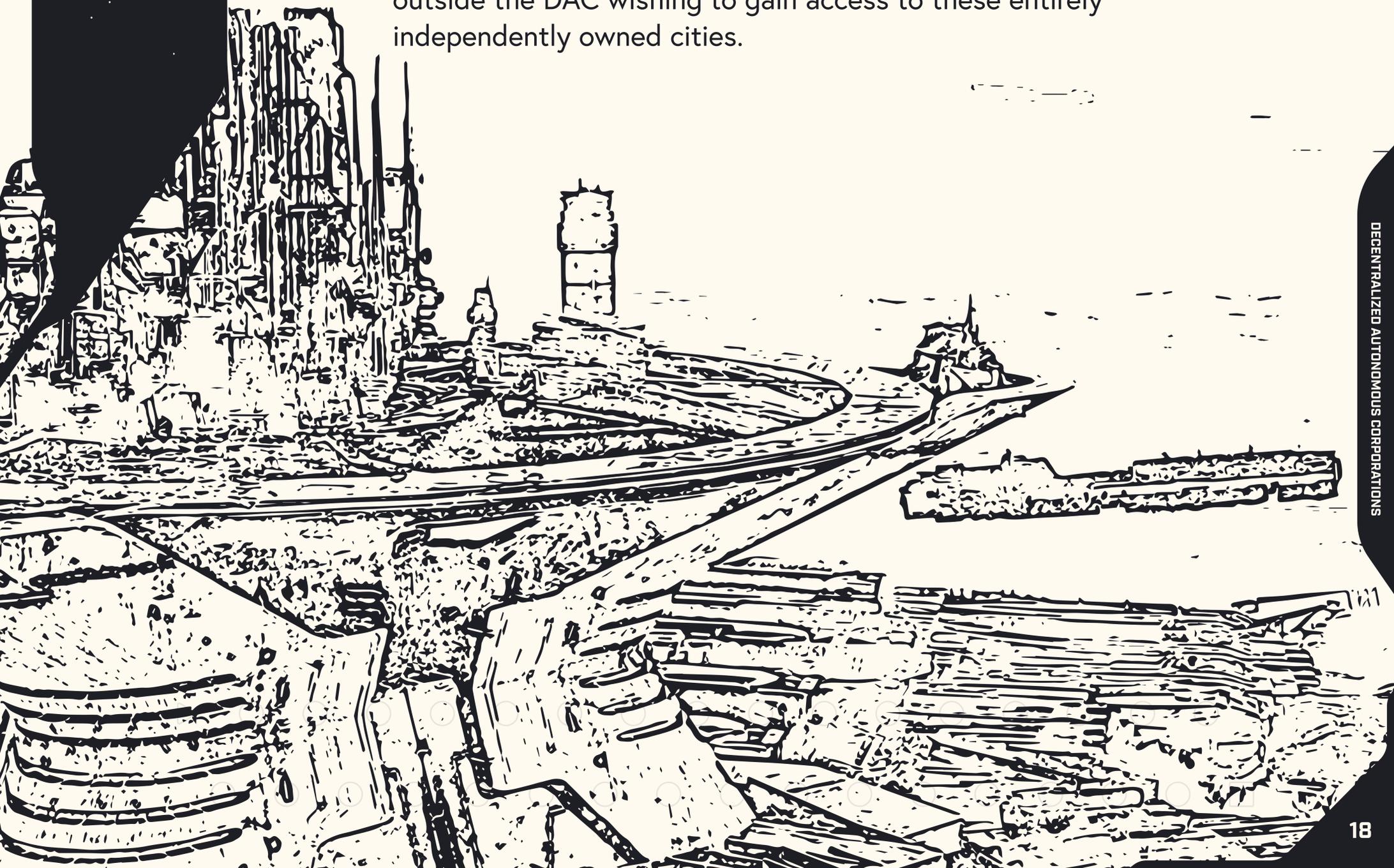


Gameplay Pillars

▶ Decentralized Autonomous Corporations

The guild system of Star Atlas. The Universe of Star Atlas is expansive. It is a lonely, challenging journey tackling the countless perils alone. Players are encouraged to create factions, combine resources, and compete collectively to outsmart other players.

Through the implementation of Decentralized Autonomous Corporations(DAC), entire space-cities can be constructed, and the micro-economy managed by those in charge. Careful strategic cooperation enables players to dominate regions, and the resources available therein. The POLIS token will serve a pivotal role in these cities, permitting the owners of political clout to impose taxes, fees, fines, rules, and laws on those outside the DAC wishing to gain access to these entirely independently owned cities.



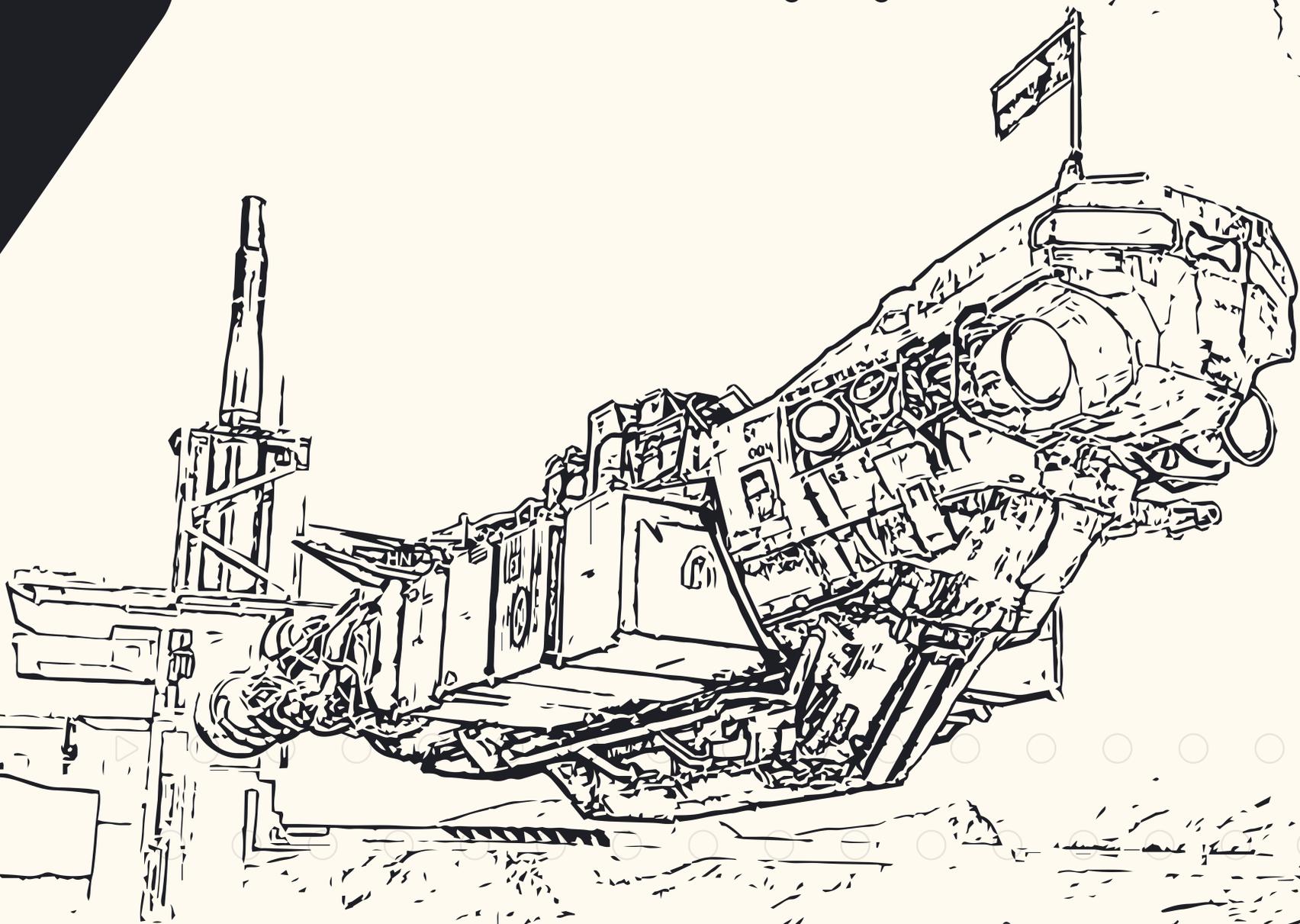


Gameplay Pillars

▶ Economics

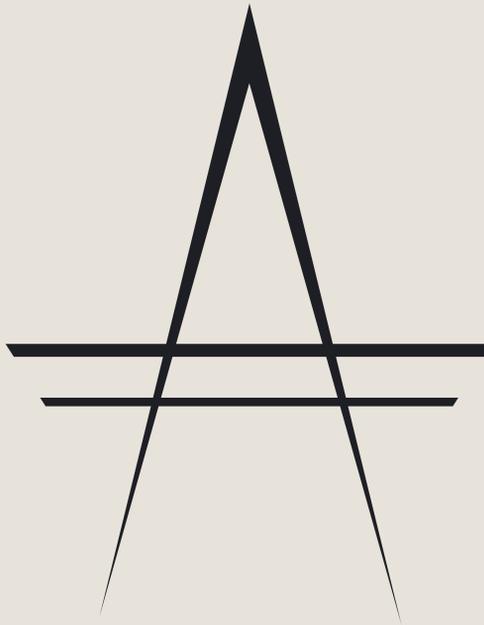
Unlike most games in existence today, Star Atlas provides a unique opportunity for players to extract in-game virtual earnings into real-world income. Where many game developers opt to monopolize asset ownership and distribution through restrictions on reselling, Star Atlas fully embraces the potential of decentralized self-sovereign ownership of assets permitted through the implementation of blockchain into asset ownership and NFT marketplaces.

The ethos of the Star Atlas development team is to encourage the monetization of time spent in this virtual world, and emphasize the ability for this monetization to transcend the metaverse to the real world. Digital assets owned always belong to the holder, and crypto assets earned can be converted into fiat currencies friction-free. We believe this is the model for the future of gaming.





Star Atlas Economics



A key driver of value within the Universe of Atlas is the monetary reward system delivered via robust, well-balanced economics, supported by both in-game and blockchain mechanics. A supplemental objective of the development team is to drive real-world human innovation and progress by leveraging this virtual world as an experimental sandbox for economic and governance research. Star Atlas is driven by a dual token system (ATLAS | POLIS), with multi-currency Solana asset support.



ATLAS: In-game currency

ATLAS will serve as the native in-game currency within Star Atlas. It is the lubricant of the metaverse. Players will initially leverage ATLAS to acquire digital assets such as ships, crew, components, land, and equipment. However, as in any real economy, a financial system is necessary to facilitate commerce. Whether it be through NPC merchants, or direct peer-to-peer transactions, ATLAS is the unit of account to execute operational requirements.

Operating a business is challenging. Managing resources will require critical strategic decision making. Players seeking the monetary rewards available in-game will need to carefully balance their operating expenses against income derived. Operating expenses, such as personnel for mining equipment, fuel for ships, and repairs for damages will all need to be paid in ATLAS. It will also serve as the predominant currency within the NFT marketplace.



Star Atlas Economics



ATLAS Issuance

A fraction of the game currency will be available through various stages of the Galactic Asset Offering (GAO), leading up to full launch of the title. Upon completion of the GAO, ATLAS can only be earned through in-game activity or sales by other players. Unlike many projects in the crypto economy, the development team retains **zero stake** in the undistributed token supply.

LEGEND

20% Initial ATLAS Stakeholder Distribution **A**

Friends, Family, and Seed: 10%

GAO Phase 1: 5%

GAO Phase 2: 5%

80%+* of ATLAS, as well as all future inflation (see below) will be rewarded to players for activities in the game. Subject to rebalancing based on live economic analysis during gameplay testing, examples of financial incentives for activities, as a ratio of total distribution flows, follow:

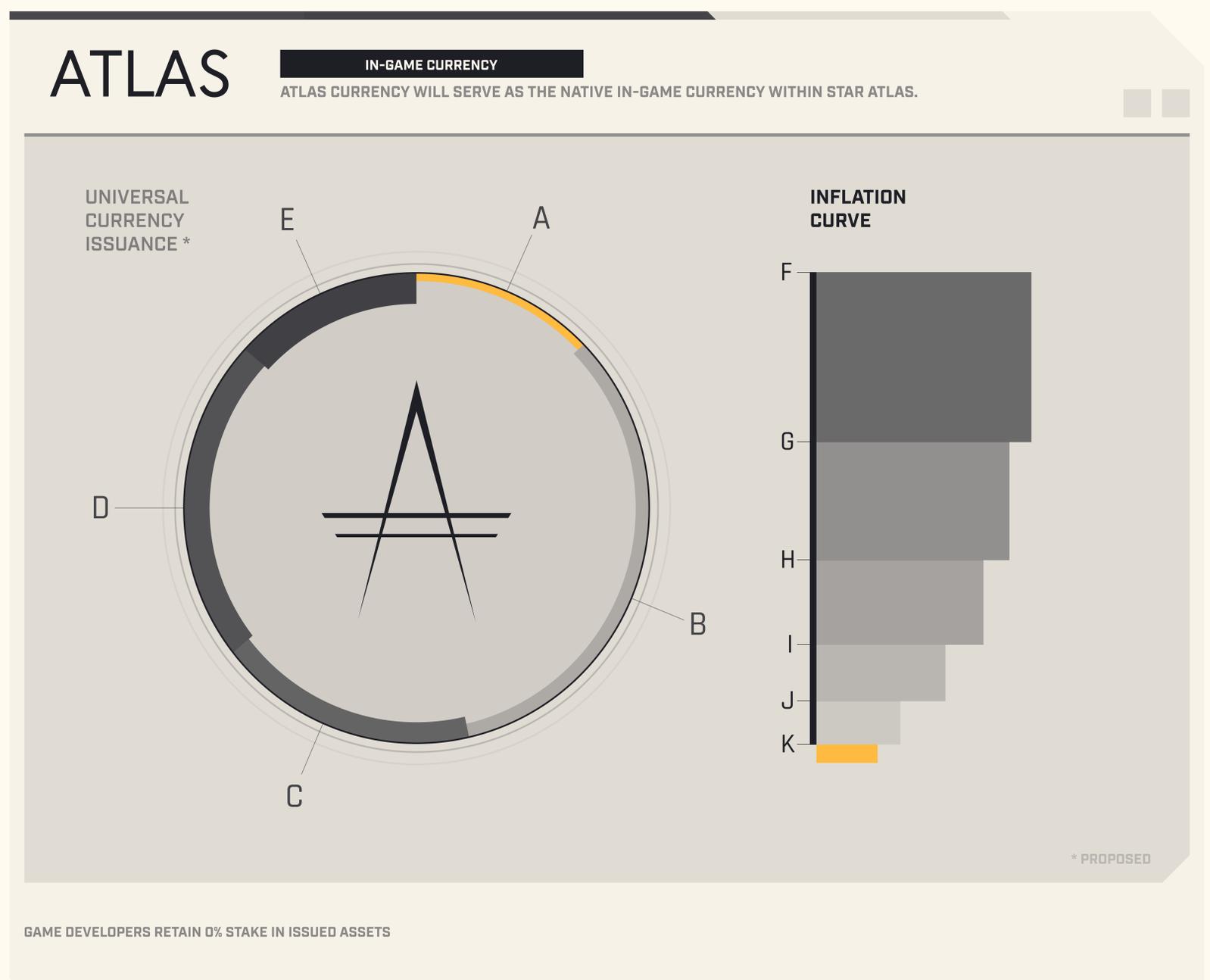
Mining Stations: 45% **B**

MM and Trade: 20% **C**

PVE Missions: 20% **D**

Resource Gathering: 15% **E**

*All future inflation will accrue to in-game activity rewards



Percent of Undistributed ATLAS Year 1: 36% **F** Year 2: 25% **G** Year 3: 18% **H** Year 4: 12% **I** Year 5: 9% **J** Year 6+ (into perpetuity): 4% inflation **K**

The undistributed balance of ATLAS at game inception (80%) will provide incentives to early adopters as a network subsidy over the course of five years. Following the subsidy period, a standard inflation rate of 4% per annum into perpetuity will be implemented as a necessity for long term viability of gameplay incentives.



06

Star Atlas Economics

▶ POLIS: Governance token

POLIS is a multifunctional governance token, with applications both in-game and in directing real world economic policy.

po·lis² | *noun.*

Greek

- *Publication of state functions: laws, decrees, and major fiscal accounts were published, and criminal and civil trials held in public.*
- *Self-governance, autonomy, and independence (city-state)*
- *Colonies being founded and walls used for protection from invaders.*
- *Coins being minted by the city, and bearing its symbols*
- *Citizen dwellers of the polis*

○ In-Game

Within the Star Atlas metaverse, political influence is yet another strategic consideration in the management of territory and the navigation of space. Controlling this political influence introduces a number of advantages for player status, which is represented by the POLIS token.

Holders of POLIS will be in a unique position of jurisdictional ownership over entire regions, regardless of who owns title (NFT) to the land and equipment rights. These players will be able to restrict some of the activity that can occur while under their oversight, impose taxes on other players, charge tolls, and otherwise create a separate set of laws with which other players must observe. However, POLIS represents voting rights, not dictatorial ownership. In this regard, it will likely require multiple players to collaborate on these rules, fines, fees, tolls, etc., lest they be superseded by a more powerful group of players. Decentralized Autonomous Corporations would do well to take advantage of this tool.





06

Star Atlas Economics

▶ POLIS: Governance token

○ Real World

Externally, control of POLIS will enable the gaming community to influence decision making of the Star Atlas development team. This will follow a period of centralization of decision making, likely 2-3 years of game development and balance. At the conclusion of the centralized period, holders will be able to influence game economics (i.e. inflation rates), asset release schedules, game direction, and will otherwise provide some degree of ownership in development decision making.

▶ POLIS Distribution

POLIS distribution will take effect in two phases. The first phase consists of a 20% sale of the governance token during the Galactic Asset Offering. Following the GAO, the exclusive ability to generate POLIS relies on staking of ATLAS currency.

ATLAS staking will be delivered in-browser while game development is in pre-production, and will subsequently be accessible in-game once version 1 of the minigame is released. Players should note, there is a tradeoff that takes place to earn POLIS. ATLAS that is reserved for POLIS rewards is not accessible for any other in-game requirement. In other words, a player can either stake, or use that currency balance to play.





06

Star Atlas Economics



Asset Destruction and Deflationary Mechanics

An innovative aspect of Star Atlas is the multi-tiered engagement zones. This mechanic enables players to engage in riskier activity, with the allure of greater rewards. Those players brave enough explore the deepest regions of space forfeit the safety provided by NPC-populated zones. The equivalent to playing for 'pink sheets,' or Play for Keys™ as it has been coined by the team.

Through seamless smart contract asset assignment, players entering these zones put their ships and crew on the line. A loss of a ship leads to a permanent destruction (burn) of said NFT. The victor in these engagements will claim spoils of the battle in the form of salvaged NFTs; however, at only a fractional random share of what was destroyed.

Further, certain farmed materials are non-permanent, and will be destroyed as they are consumed for use. i.e. materials used in construction (reduced return when deconstructing an item for material recapture), fuel, temporary boosts, etc.

Finally, covered in greater detail later, the Star Atlas development team is also committed to a token repurchase and burn program, based on both traditional revenues and in-game revenues.

The result of this mechanic is a natural deflation of assets in existence over time. Particularly as more players seek the rewards in the most dangerous security zones.



06

Star Atlas Economics

▶ NFT Release Schedule

New NFT assets will be released periodically by the game developer with careful consideration surrounding the inflationary impact of release. Analysis of current demands for assets by new players, growth in user-adoption, asset availability on NFT marketplaces, and the natural deflation of assets resulting from high-risk zone engagements will be conducted prior to the release of a new tranche of assets. All efforts will be undertaken to reduce negative impacts to players and asset holders resulting from these future sales.

Particular emphasis will be placed on assets released in earlier versions with power bonuses or otherwise unique benefits bestowed upon them.

▶ NFT Marketplace

The Star Atlas Universal Marketplace connects all players in game to buy and sell all asset types and post job listings for paid, in-game tasks. The majority of assets traded on the Marketplace will be earned doing in-game tasks. However, it is also a place to list assets purchased from the pre-sale and concept sales. Other players will place bid offers or settle immediately for the price limit. Due to the permanent loss during normal economic activity, all assets are considered deflationary. This deflationary, asset-burning mechanic ensures that assets are unique and of finite supply unlike traditional online games.





06

Star Atlas Economics



Defi Financial System

Facilitated by a direct integration to the Serum DEX, players will be enabled to participate in decentralized finance activities, popularized during 2020, through a unique in-game interface.

Players will engage with defi instruments (i.e. smart contracts) throughout the financial epicenters in the game. DAO cities are a likely location for the rise of these financial centers, permitting the creators to establish their own fees for trading in their facilities. Examples of activities follow:

- **Lending**
Loaning a variety of Solana/Serum assets to earn yield
- **AMM**
Automated market making on various asset pairs to earn trade fees
- **Yield Farming**
Identifying assets to borrow at lower yield, and lending/trading with higher yield, earning the spread on assets



Decentralized Finance

"...finance that does not rely on central financial intermediaries such as brokerages, exchanges, or banks, and instead utilizes smart contracts on blockchains..."

– Financial Times





06

Star Atlas Economics

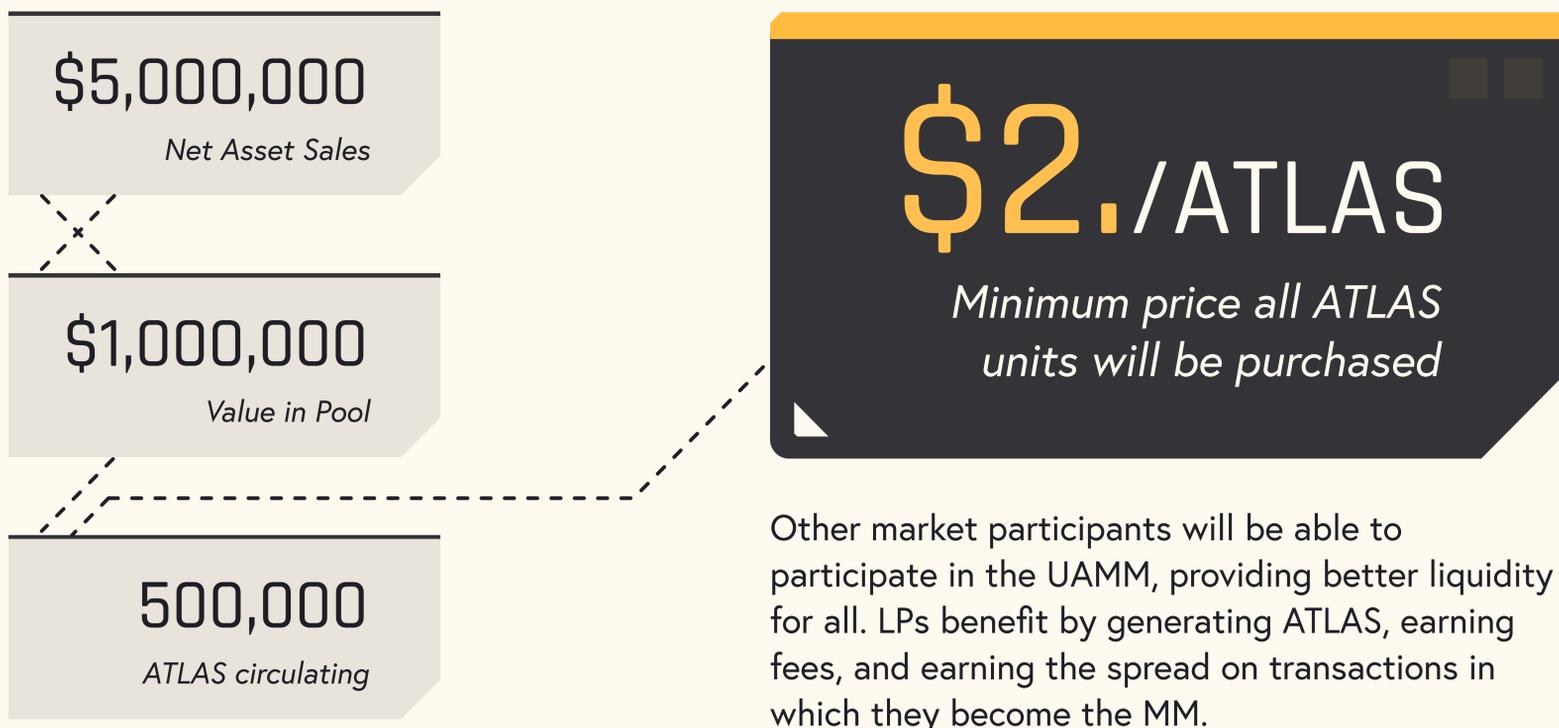


Star Atlas UAMM

Net revenues from NFT asset sales will be contributed to an ATLAS:USDC AMM pool as a Universal LP. These funds will be accessible to any player with the desire to sell in-game generated currency back for alternative digital assets. Within this pool, Atlas Co. is a buyer of last resort, willing to purchase ALL remaining ATLAS units at a price equal to USDT deposited in the pool divided by the total number of ATLAS units in circulation.



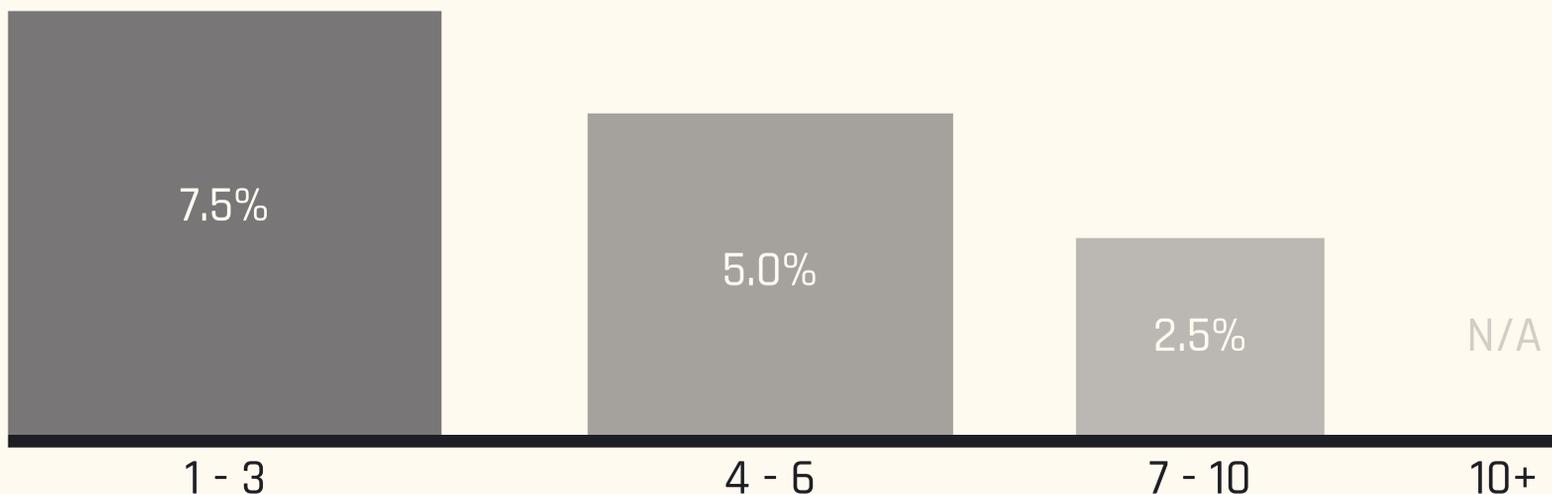
Example ONLY



PROPOSED ATLAS CO. CONTRIBUTION CURVE

Developer Contribution

Years of Operation



THE STAR ATLAS DEVELOPMENT TEAM WILL MAKE PERIODIC CONTRIBUTIONS TO THE UAMM BASED ON GROSS REVENUES.



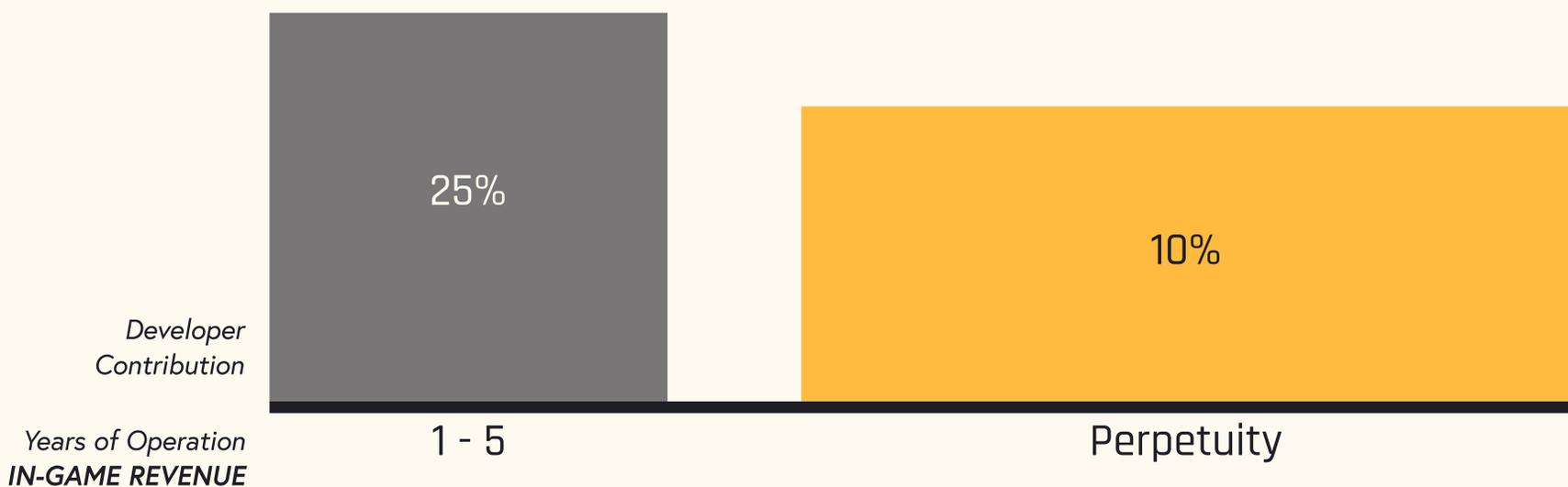
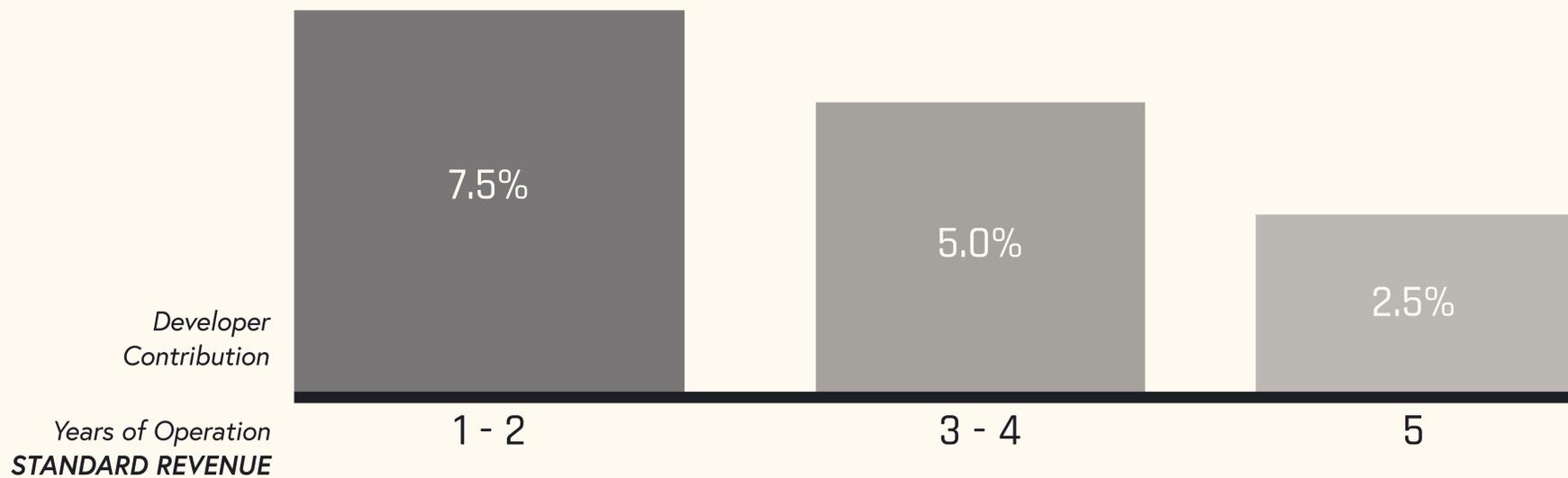
Star Atlas Economics



Star Atlas Token Burn

In addition to contributing towards the UAMM, the Star Atlas development team will also participate in a token acquisition and burn mechanism. These purchases will occur on the same open-market DEXs for which all players have access. Similar to UAMM contributions, ATLAS repurchased will come from gross company revenues, and will create deflation in circulating supply.

PROPOSED ATLAS CO. REPURCHASE CURVE THE REPURCHASE CURVE CONSISTS OF TWO BUSINESS SEGMENTS: **STANDARD REVENUES, AND IN-GAME REVENUES.** STANDARD REVENUES CONSIST OF THAT INCOME PAID FOR THE INITIAL ACQUISITION OF ASSETS TO THE DEVELOPER. IN-GAME REVENUES CONSIST OF THOSE EXPENSES PAID IN ATLAS BY PLAYERS ENGAGED IN GAMEPLAY.





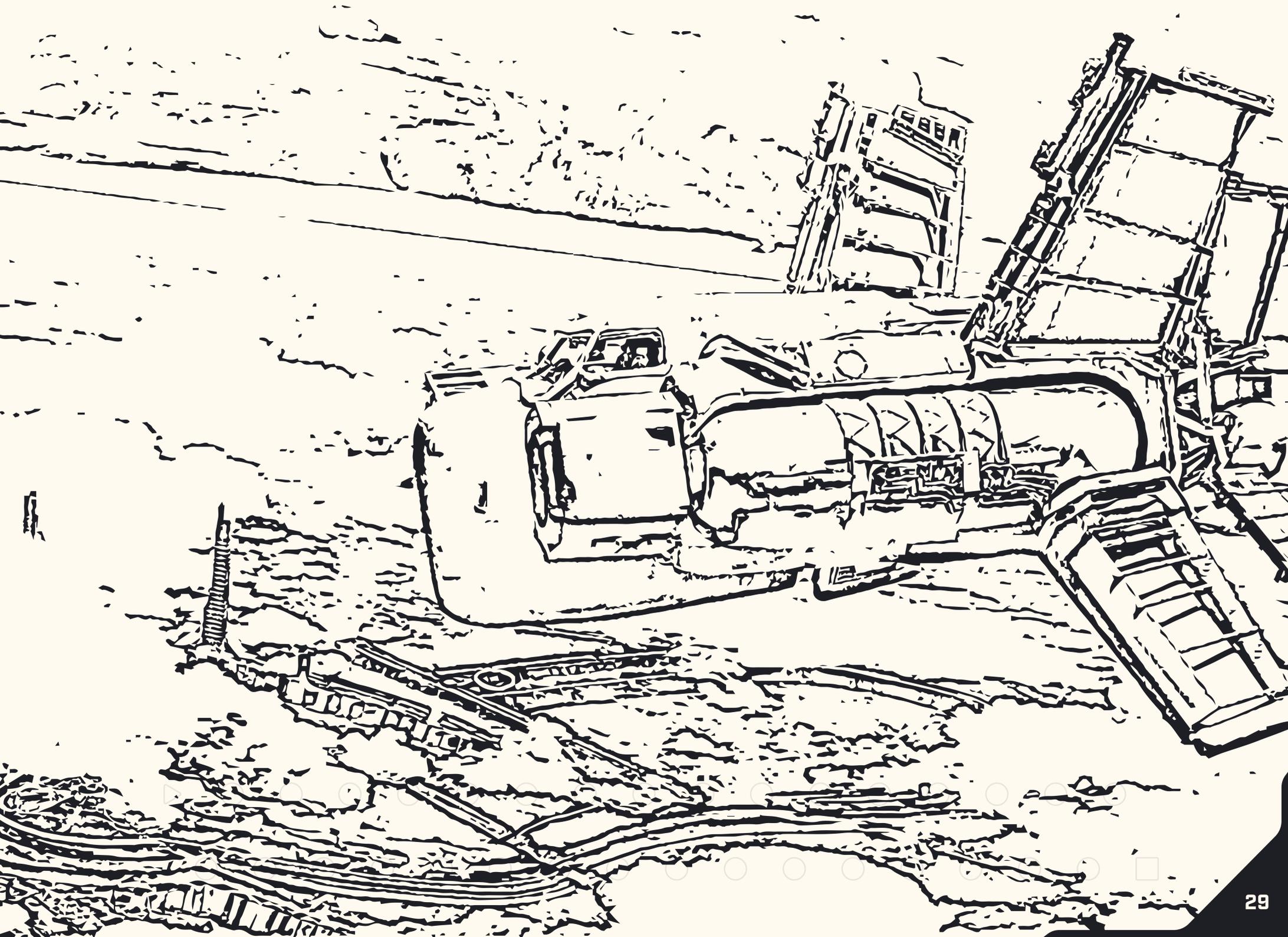
06

Star Atlas Economics



Player Created Content

Part of the longer term vision of Star Atlas is to enable player created content generation to be added to the game. This content can be delivered in a variety of forms. One such vision is to include externally created assets or skins to be made available for sale on the marketplace. A perhaps more unique version of content creation includes the ability to sell efficiency algorithms on the marketplace, providing buyers with an advantage in terms of mining yields, trading yields, and even automation of equipment. In time the ability will exist to permit access to entire adjunct universes created by external teams, and alternative blockchain protocols.



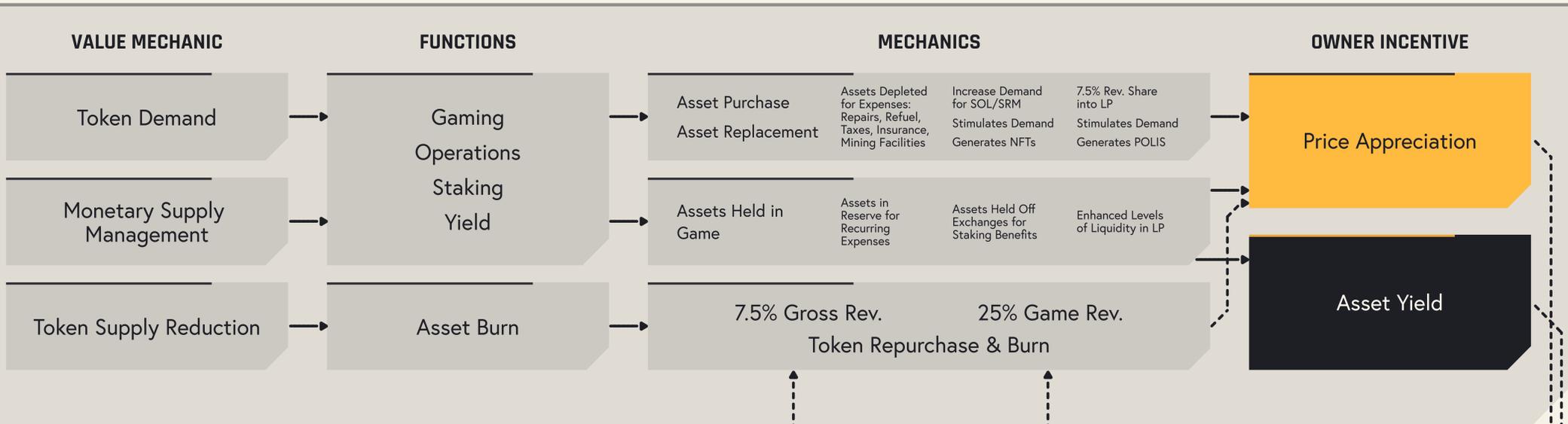


Star Atlas Economics

Star Atlas Tokenomics and Value Matrix

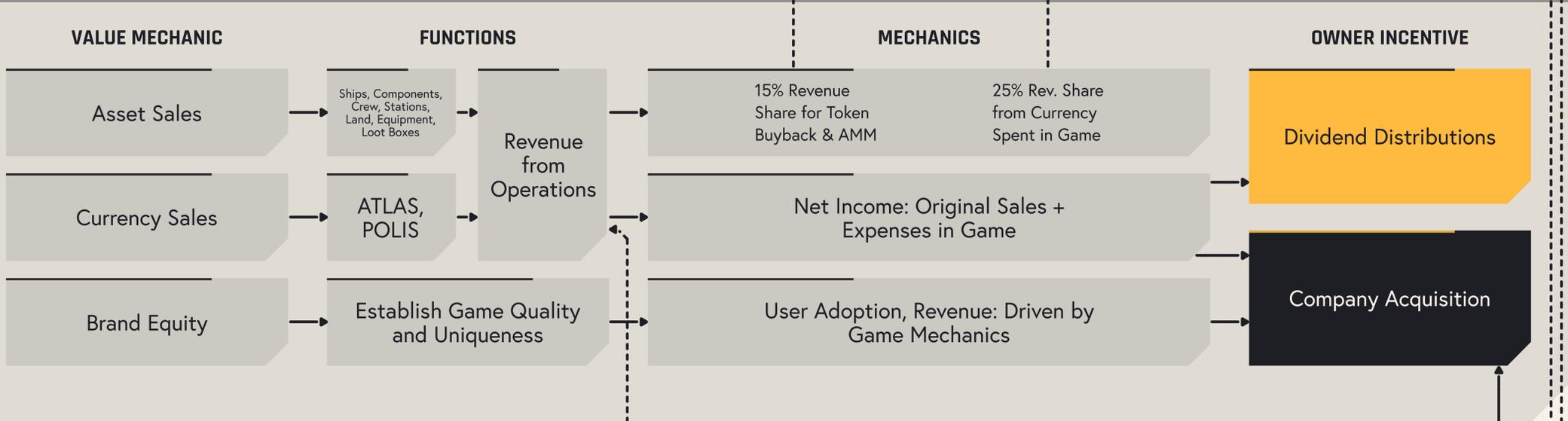
STAKEHOLDER

Tokens



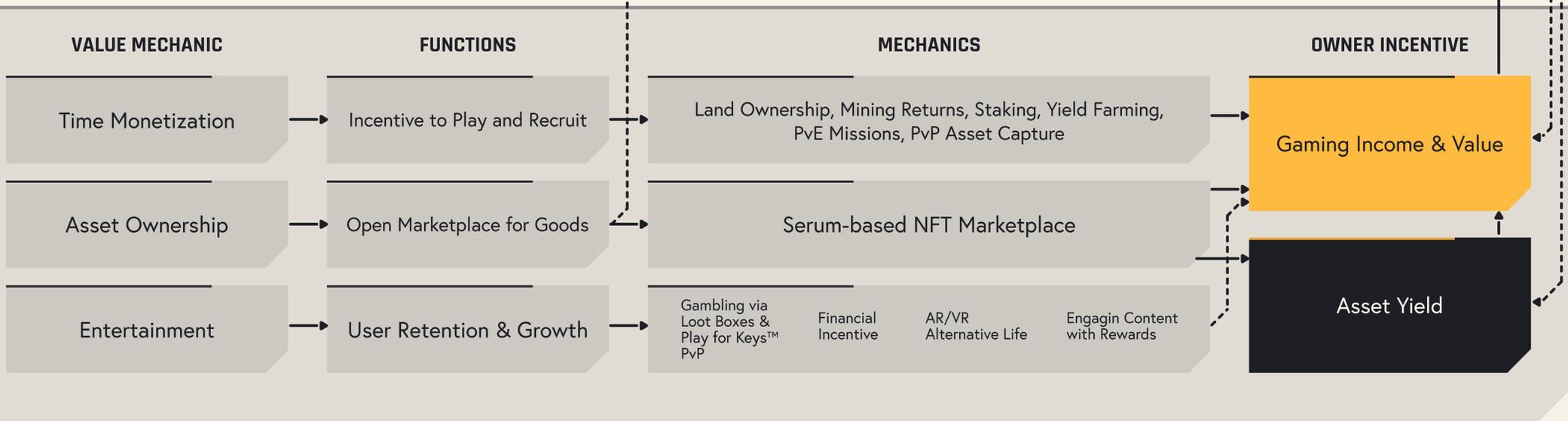
STAKEHOLDER

Equity



STAKEHOLDER

Gamer





07

Market Research



Gaming Market

- *"...In 2020, video game players will spend up to \$4.5 billion on VR gaming or immersive gaming..."*

"...The global gaming industry will grow at a CAGR of 12% between 2020-2025..."

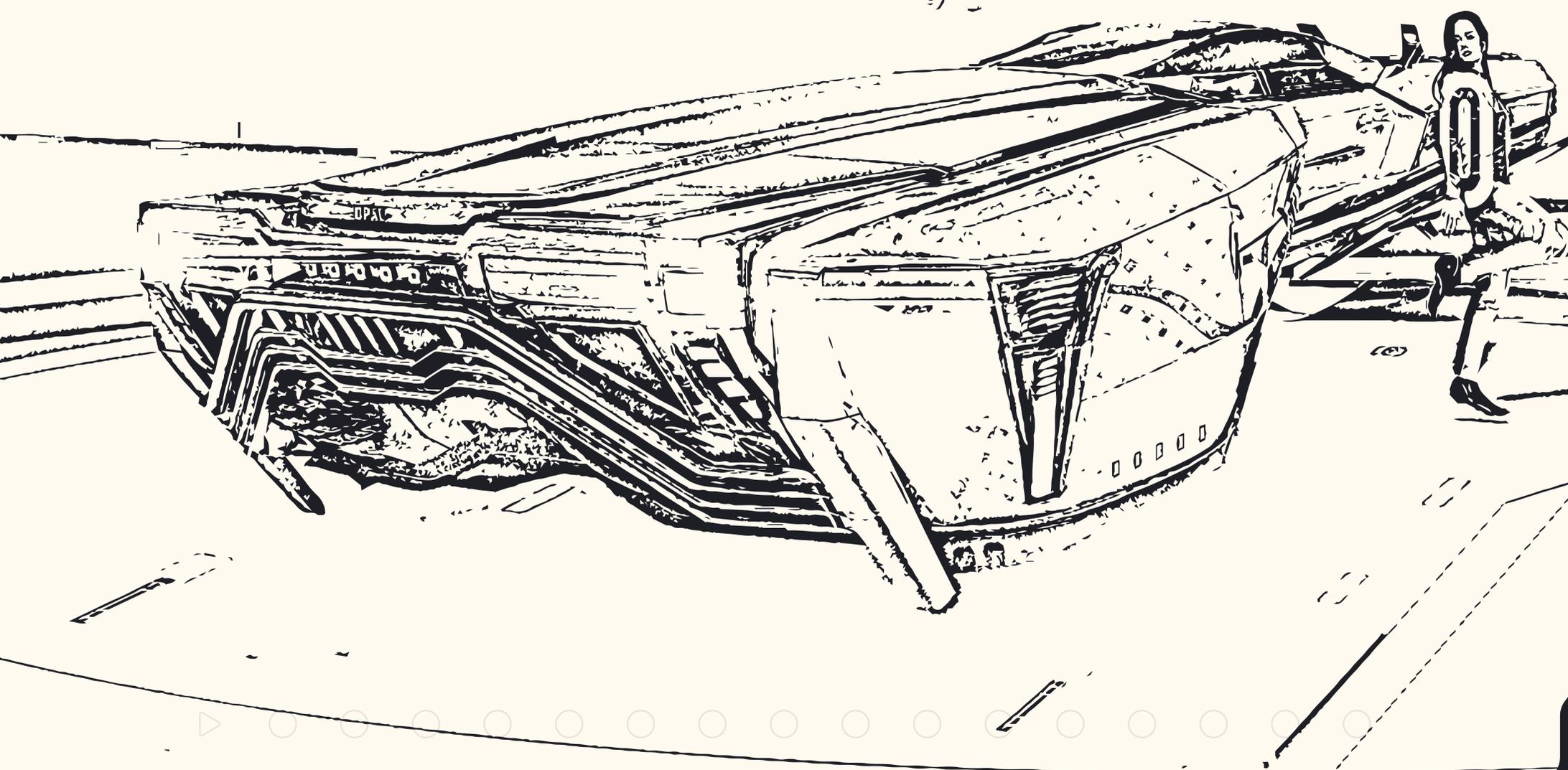
– Business Wire

- *"...There are 2.7 billion gamers worldwide in 2020..."*

– Statista

- *"...56% of gamers play multiplayer games at least once a week..."*

– ESA





07

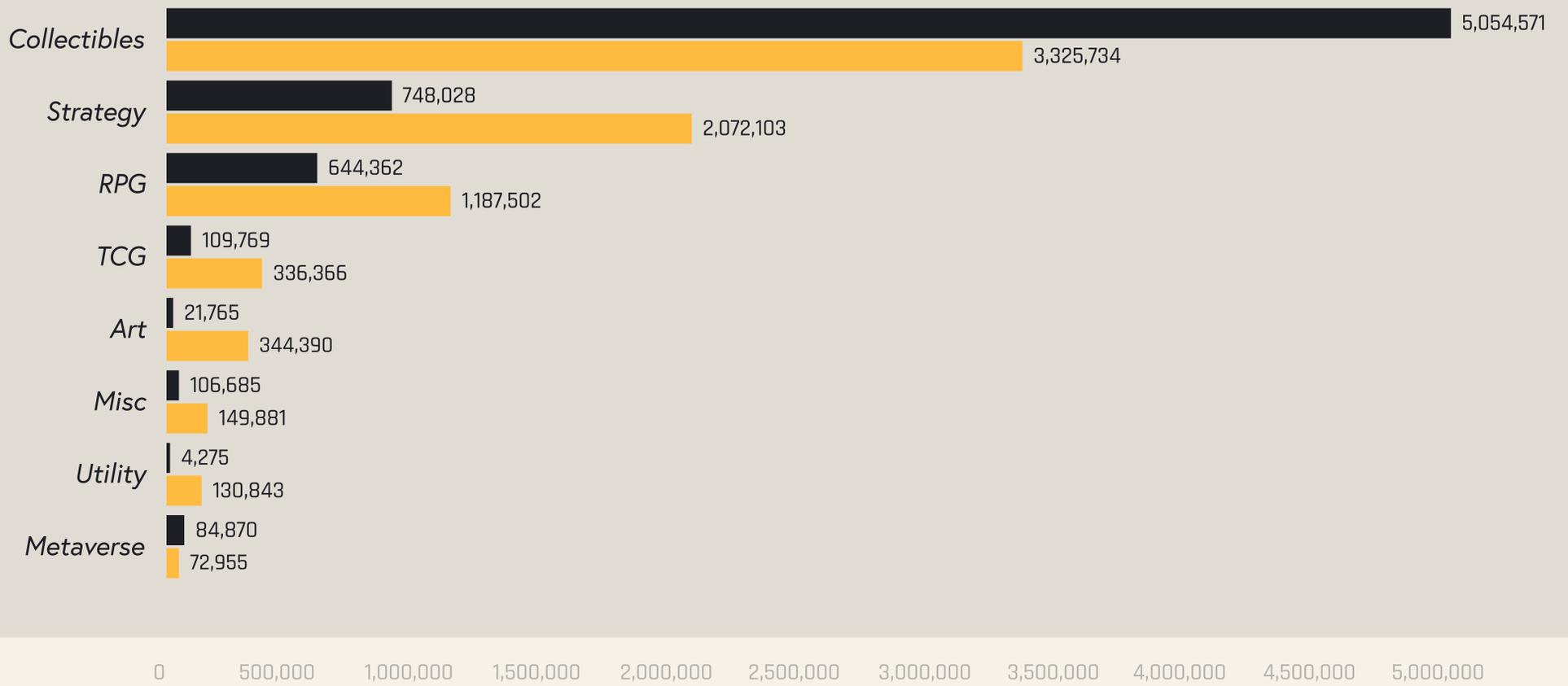
Market Research



NFT Market: An Asset Class In Demand

Transaction Volume By Category

2018 2019



All-Time Sales Volume in USD



Source: <https://nonfungible.com/market/history>





07

Market Research



DeFi Market

"...Statistics show that the decentralized finance (DeFi) economy has grown massively this year as the total value locked (TVL) in defi recently surpassed \$4 billion. Between dex platforms, derivatives, stablecoins, lending, and non-fungible asset creation the second quarter of 2020 has propelled the Ethereum network to new heights..."

– Bitcoin.com

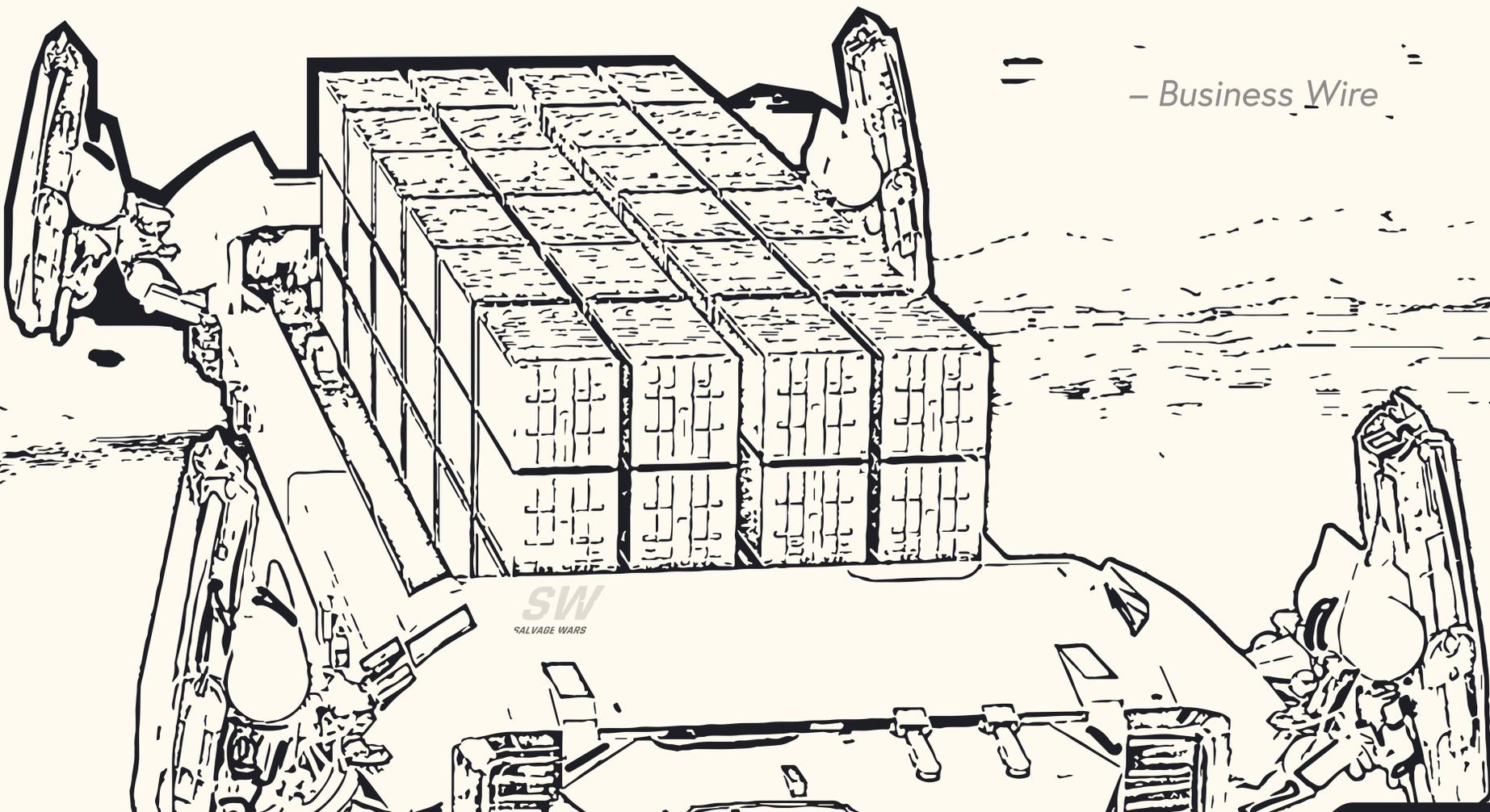


Online Gambling Market

"...Bitcoins are also increasingly being used as currency in online gambling businesses due to the advantages offered by cryptocurrency over normal currency..."

"...The global online gambling market is expected to grow from \$58.9 billion in 2019 and to \$66.7 billion in 2020 at a growth rate of 13.2%. The growth is mainly attributed to COVID 19, due to which populations are confined to home during the lockdown and have free time to participate in several free and paid leisure activities including online gambling. The market is then expected to reach \$92.9 billion in 2023 at CAGR of 11.64%..."

– Business Wire





07

Market Research



Genre Competitive Analysis

Highest Profile Star Atlas Competitors

Dissolution MoonCryptopolis Beyond The Void Star Citizen Elite Dangerous No Man's Sky Stellaris Starbound Endless Space 2 Star Conflict Everspace 2 Infinity Battlescape EVE Online **STAR ATLAS**

	Dissolution	MoonCryptopolis	Beyond The Void	Star Citizen	Elite Dangerous	No Man's Sky	Stellaris	Starbound	Endless Space 2	Star Conflict	Everspace 2	Infinity Battlescape	EVE Online	STAR ATLAS
BLOCKCHAIN	★	★	★	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	★
MINING	⊘	★	★	★	★	★	★	★	★	⊘	★	⊘	★	★
EXPLORATION	LINEAR VERY SMALL HANDCRAFTED	⊘	LINEAR VERY SMALL HANDCRAFTED	OPEN WORLD MEDIUM HANDCRAFTED	OPEN WORLD VERY LARGE ALGORITHMIC	OPEN WORLD UNLIMITED ALGORITHMIC	OPEN WORLD MEDIUM HANDCRAFTED	OPEN WORLD UNLIMITED ALGORITHMIC	OPEN WORLD MEDIUM HANDCRAFTED	⊘	OPEN WORLD SMALL HANDCRAFTED	OPEN WORLD MEDIUM ALGORITHMIC	OPEN WORLD MEDIUM ALGORITHMIC	OPEN WORLD UNLIMITED ALGORITHMIC
COMBAT	★	⊘	★	★	★	★	★	★	★	★	★	★	★	★
CLAIM STAKING	⊘	★	★	★	★	★	★	★	★	⊘	⊘	⊘	★	★
MARKETPLACE	★	★	★	★	★	★	★	★	★	★	★	★	★	★
ORGANIZATIONS	⊘	⊘	⊘	★	★	⊘	⊘	⊘	⊘	⊘	⊘	⊘	★	★

⊘ NOT FEATURED ★ SEMI-FEATURED ★ FEATURED





08

Tools



Solana

As blockchain technology continues to evolve towards greater capabilities, innovative development possibilities emerge. With the release of Star Atlas, all in-game assets will be delivered to the player as direct-owned non-fungible digital tokens. Players will possess complete control of their purchased assets. Currently, Solana is capable of processing 50,000 transactions per second, at 400ms average block times, an industry leading protocol. To complement this speed, Solana additionally delivers an expansive and robust development toolset, which the Star Atlas development team will leverage to build the metaverse. Such performance at the blockchain layer enables a future in which all game logic can be computed on a suite of on-chain smart applications. Our vision at Star Atlas is to deliver a purely blockchain-driven universe that will change the gaming industry forever.



Serum

An active in-game economy and a high volume of trading means users will need a feature-rich exchange to manage all of their asset sales. Serum's decentralized exchange (DEX) fulfills the needs to support the Star Atlas economy. With nearly instant settlement and virtually zero operating costs, there isn't a better fit for scaling the economy.



Stardust

Stardust operates at a very important layer. They introduce optimized ways to deal with non-fungible token in-game assets securely and in a user-friendly manner. By utilizing their API, we will seamlessly integrate Solana-based NFTs for usage in our initial game client. Stardust has a very prominent item on their roadmap to support Serum DEX trading, which aligns completely with our goals.





08

Tools



Unreal Engine 5



Next-generation real-time graphics technology include: Nanite for cinema quality models, Lumen for real-time global illumination, the Chaos physics engine, and the Niagara particles system.



Nanite

With the release of Nanite technology via Unreal Engine 5 in 2021, traditional asset authoring pipelines become optimized and the visual quality is dramatically improved. Nanite allows limitless polygon counts for select objects. Without real-time polygon budget constraints, Star Atlas' visual fidelity rivals pre-rendered computer generated imagery.



Lumen

Lumen will allow far more believable and dynamic environments as the lighting doesn't require faked enhancements with manually placed lighting.



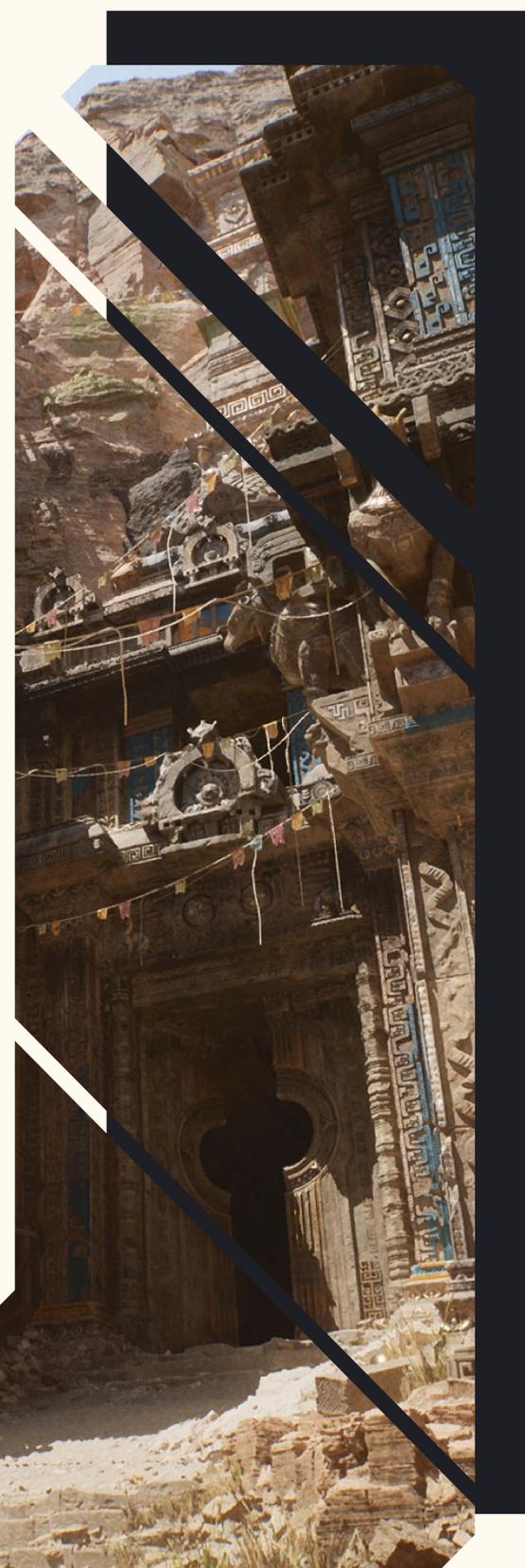
Chaos

Chaos gives the game an optimized physics template for destructible meshes and believable vehicle rigs.



Niagara

Niagara enhances traditional particle systems with fully exposed blueprinting for the artists and easily implements high level shading language(HLSL).





09

Post-Live Growth



Long Term Vision

○ Additional Universe Zones with Additional Blockchains

While we fully embrace the potential of Solana and Serum to deliver a seamless, enjoyable gaming experience, our vision for the future includes the ability to expand the metaverse both geographically, and cross protocol. To that end, later versions will permit players to explore newly emerging regions of space, and store assets on various chains, all while connected in a unified game experience.

○ Player Created Content

Using Modkit or Steam Workshop integrations with Unreal Engine, players can author their own content to be compatible with Star Atlas' content format. Assigning this content to NFT values that the author owns transfers their content to physically represented asset data on the blockchain. A perhaps more unique version of content creation includes the ability to sell efficiency algorithms on the marketplace, providing buyers with an advantage in terms of mining yields, trading yields, and even automation of equipment. In time the ability will exist to permit access to entire adjunct universes created by external teams, and alternative blockchain protocols.

○ Actual Universe Discovery

A forward-looking use case of the mining power of Star Atlas' blockchain would be to provide a gamer's computer processing power for initiatives similar to SkyHub.org in the search for UFOs. This can be turned towards the distant universe where exploration in the game can be converted to real-world exploration of the universe by powering the processing of data leading to actual discoveries.





Conclusion

Star Atlas is an ideal product to emerge from the confluence of state of the art blockchain, real-time graphics, multiplayer video game, and decentralized financial technologies.

Basing the Star Atlas universe in a Grand Strategy multiplayer genre creates engaging, long-term gameplay as factions battle it out in a universal spacescape under a constant state of flux. Players stake assets with real-world value to grow their in-game corporate empires, discover unique and distant alien worlds, battle in high stakes combat, and shape the game's features and future with earned political influence. Star Atlas' cinema-quality graphical technology utilizing Unreal Engine 5 is beginning at a state that no other competitors in this space have yet had the luxury to adopt. To bring all these enabling technologies together presents a unique opportunity for the future of finance, video games, entertainment, real-world professions and blockchain where people can make money and have a lot of fun doing it. All in the familiar frontier of outer space, where exploration is both terrifyingly cold and simultaneously full of *unrelenting optimism*.



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