

# STAR ATLAS

## White Paper

*Your guide to the universe!*

Version 1.0.0



# 01 Introduction — — — 4

01.1 Blockchain Mechanics // 01.2 Core Game Mechanics

# 02 Purpose of this Paper — — 5

02.1 Intended Audience

# 03 What is Star Atlas — — — 6

03.1 Space Age Technology

03.1.a Blockchain // 03.1.b NFTs and NFT Marketplace

03.1.c Serverless Massively Multiplayer Online Game

03.1.d Unreal Engine 5

03.2 Hybrid Space Genre

03.2.a Grand Strategy // 03.2.b Exploration

03.2.c Role-Playing Game // 03.2.d Space Flight Simulation

# 04 Birth of a Universe — — — 8

04.1 Asset Sale Phases

04.1.a Phase 01 – Opensea Galactic Asset Offering (GAO)

04.1.b Phase 02 – Browser Mini Game

04.1.c Phase 03 – Shipyard Module

04.1.d Phase 04 – Final Pre-Sale at Beta

04.1.e Ongoing Sales

04.2 Asset Use Cases

04.2.a In-game Professional Careers // 04.2.b Asset Brokerage

04.2.c Node Staking // 04.2.d Alternate Gaming Clients

## 05 **Gameplay Pillars** — — — 12

05.1 Faction Security Zones

05.2 Deep Space Exploration // 05.3 Combat

05.4 Station Modular Construction

05.5 Crew & Ship Component Outfitting // 05.6 Professions

05.7 Decentralized Autonomous Corporations (DACs)

05.8 Economics

## 06 **Star Atlas Economics** — — 20

06.1 ATLAS: In-game currency

06.2 ATLAS Issuance

06.2.a *ATLAS Distribution* // 06.2.b *ATLAS Inflation Curve*

06.3 POLIS: Governance token

06.3.a *In-Game* // 06.3.b *Real World*

06.4 POLIS Distribution

06.5 Asset Destruction and Deflationary Mechanics

06.6 NFT Release Schedule // 06.7 NFT Marketplace

06.8 Defi Financial System

06.8.a *Lending* // 06.8.b *AMM* // 06.8.c *Yield Farming*

06.9 Star Atlas UAMM

06.9.a *Example ONLY*

06.10 Star Atlas Token Burn // 06.11 Player Created Content

06.12 Star Atlas Tokenomics and Value Matrix

07	<b>Market Research</b>	31
	07.1 Gaming Market	
	07.2 NFT Market: <i>An Asset Class In Demand</i>	
	07.2.a <i>Transaction Volume By Category</i>	
	07.2.b <i>All-Time Sales Volume in USD</i>	
	07.3 DeFi Market // 07.4 Online Gambling Market	
	07.5 Genre Competitive Analysis	
	07.5.a <i>Highest Profile Star Atlas Competitors</i>	
08	<b>Tools</b>	35
	08.1 Solana // 08.2 Serum // 08.3 Stardust	
	08.4 Unreal Engine 5	
	08.4.a <i>Nanite</i> // 08.4.b <i>Lumen</i> // 08.4.c <i>Chaos</i>	
	08.4.d <i>Niagara</i>	
09	<b>Post-Live Growth</b>	37
	09.1 Long Term Vision	
	09.1.a <i>Additional Universe Zones with Additional Blockchains</i>	
	09.1.b <i>Player Created Content</i> // 09.1.b <i>Actual Universe Discovery</i>	
10	<b>Conclusion</b>	38
11	<b>Reference</b>	39

# 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.

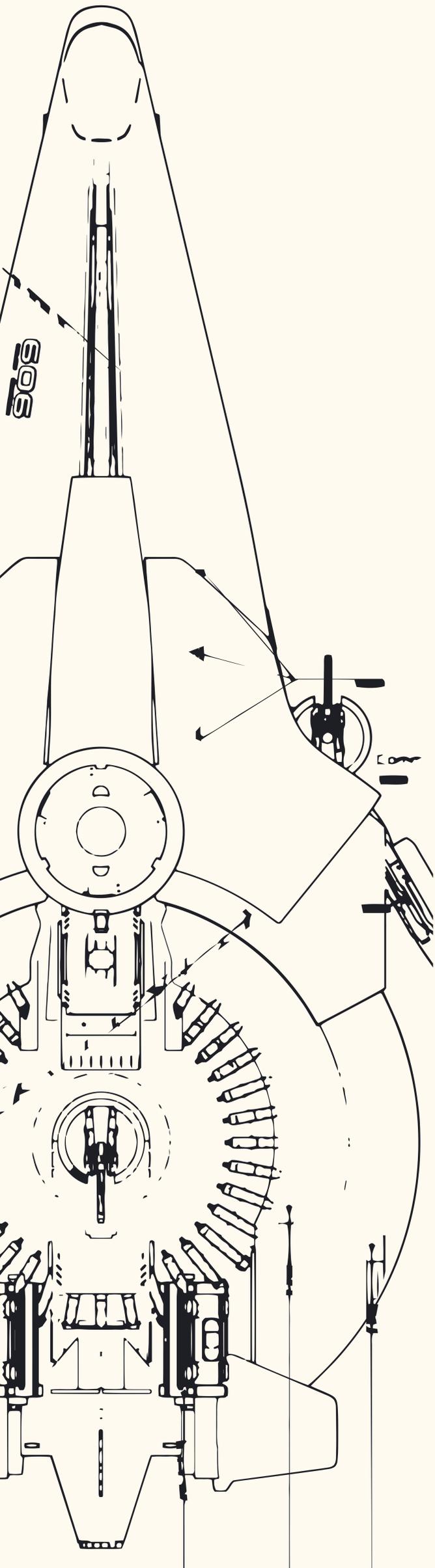
The metaverse introduces a unique gaming experience through the combination of both traditional core game and blockchain mechanics.

## 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.<sup>1</sup>

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

#### Shipyards 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 Shipyards 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**

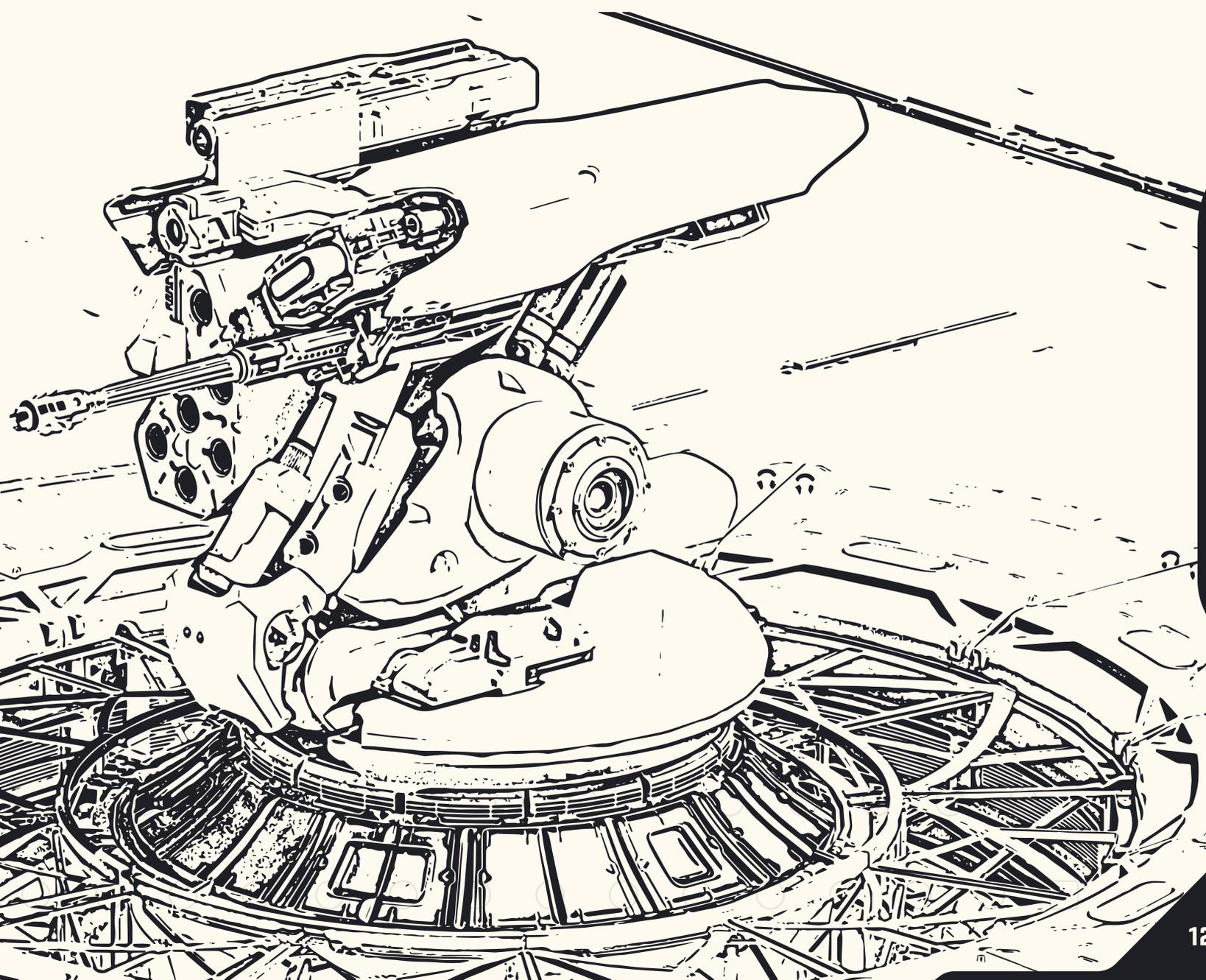
Open source blockchain allows other connected clients to utilize the mechanics of Star Atlas assets in an alternative means of exchange that we do not actively review.



# 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.

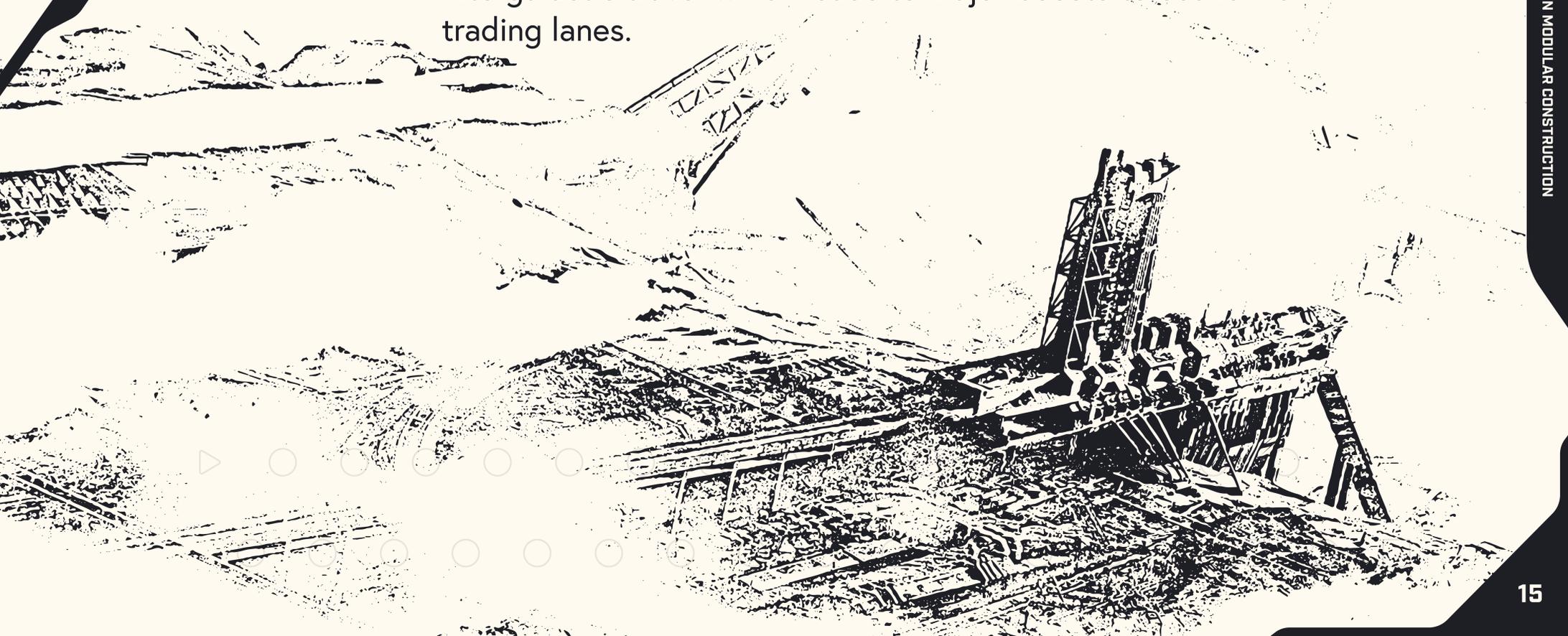




# Gameplay Pillars

## ▶ 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.

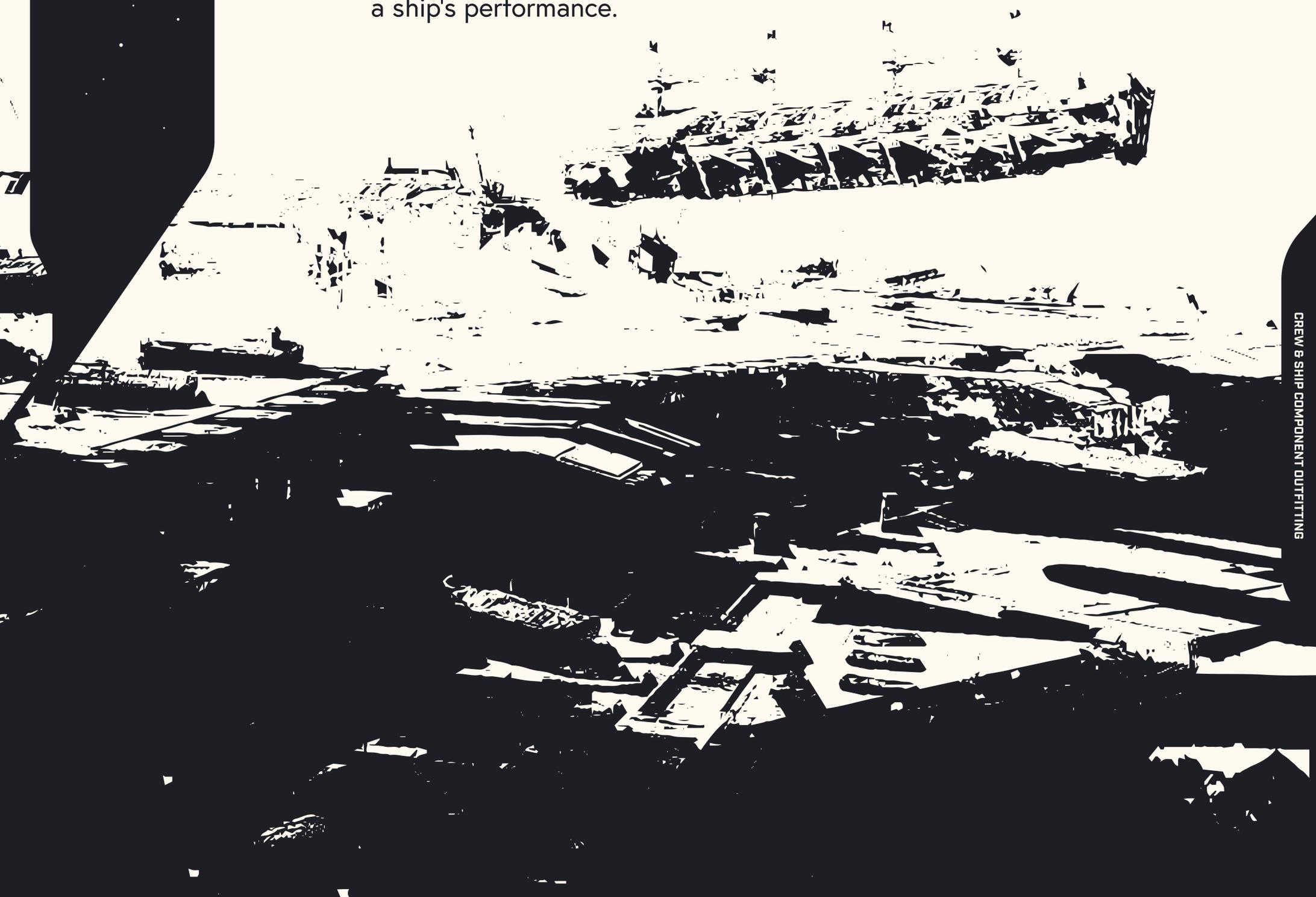




# Gameplay Pillars

## ▶ Crew & Ship Component Outfitting

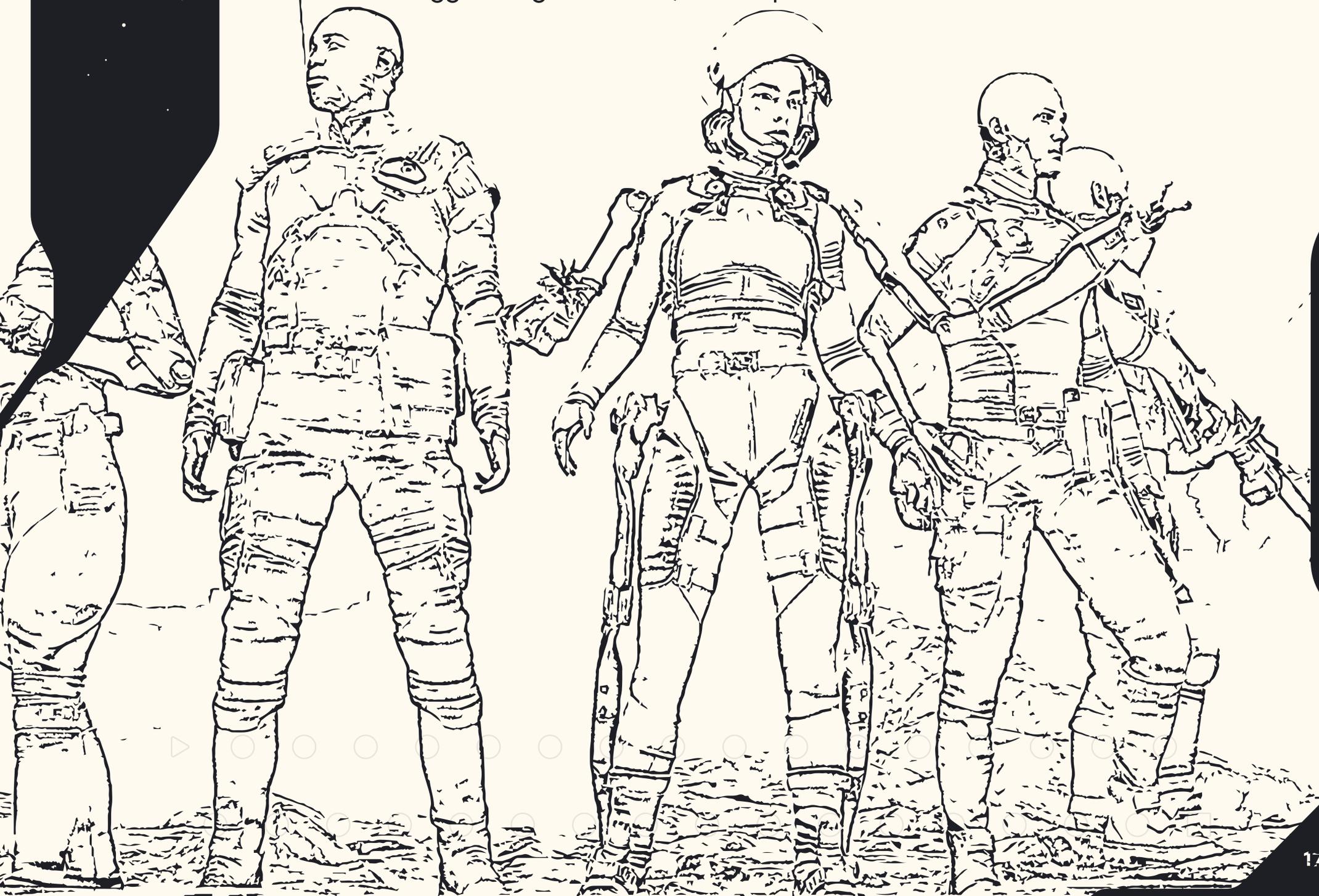
All ships contain components and crew members that enhance the features and stats of each ship. Ships have native aptitudes for different gameplay features. This means that ships can be fitted with specific tiered components that enhance the ship's functionality within those professional roles. Individual 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.



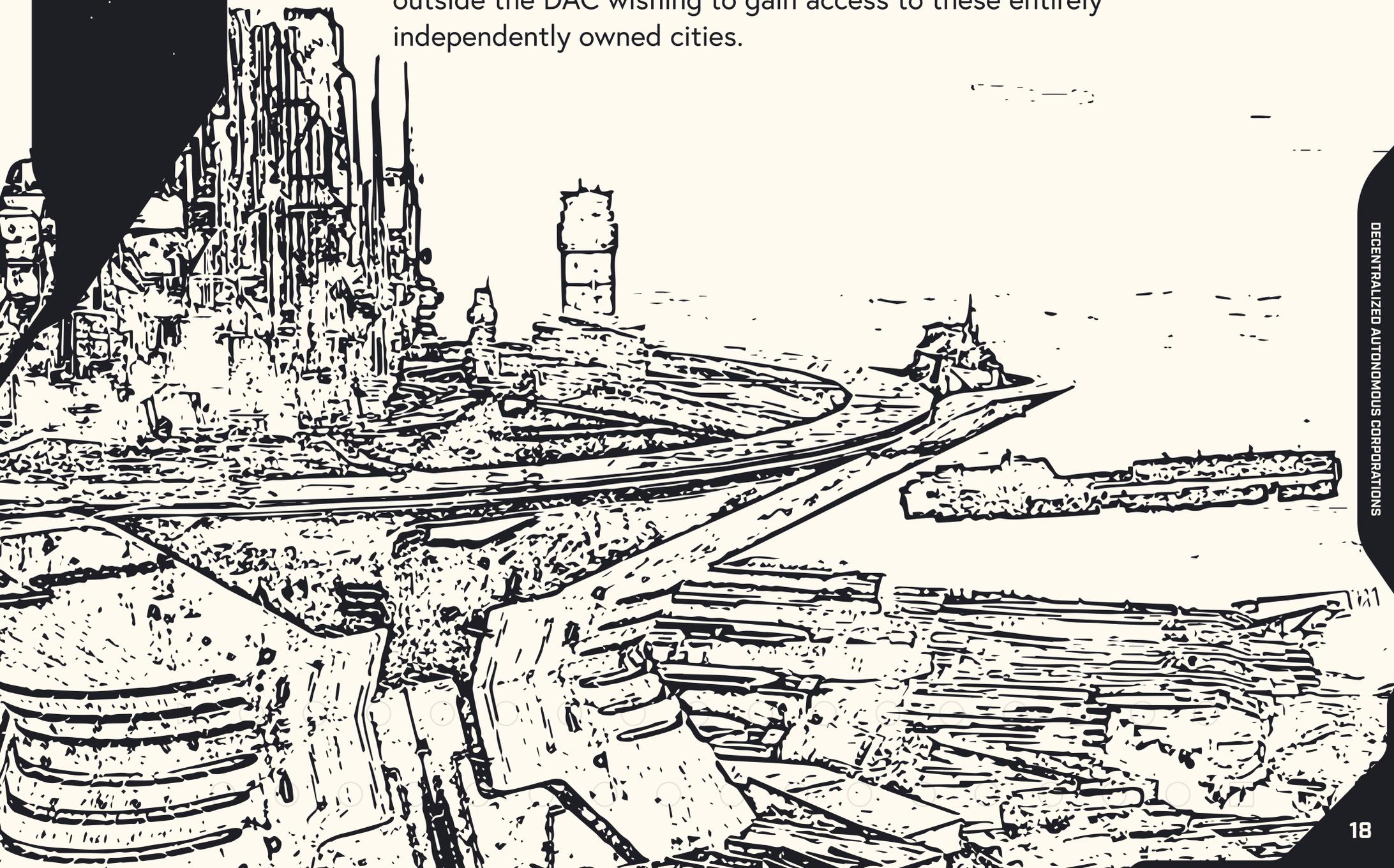


# Gameplay Pillars

## ▶ 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.



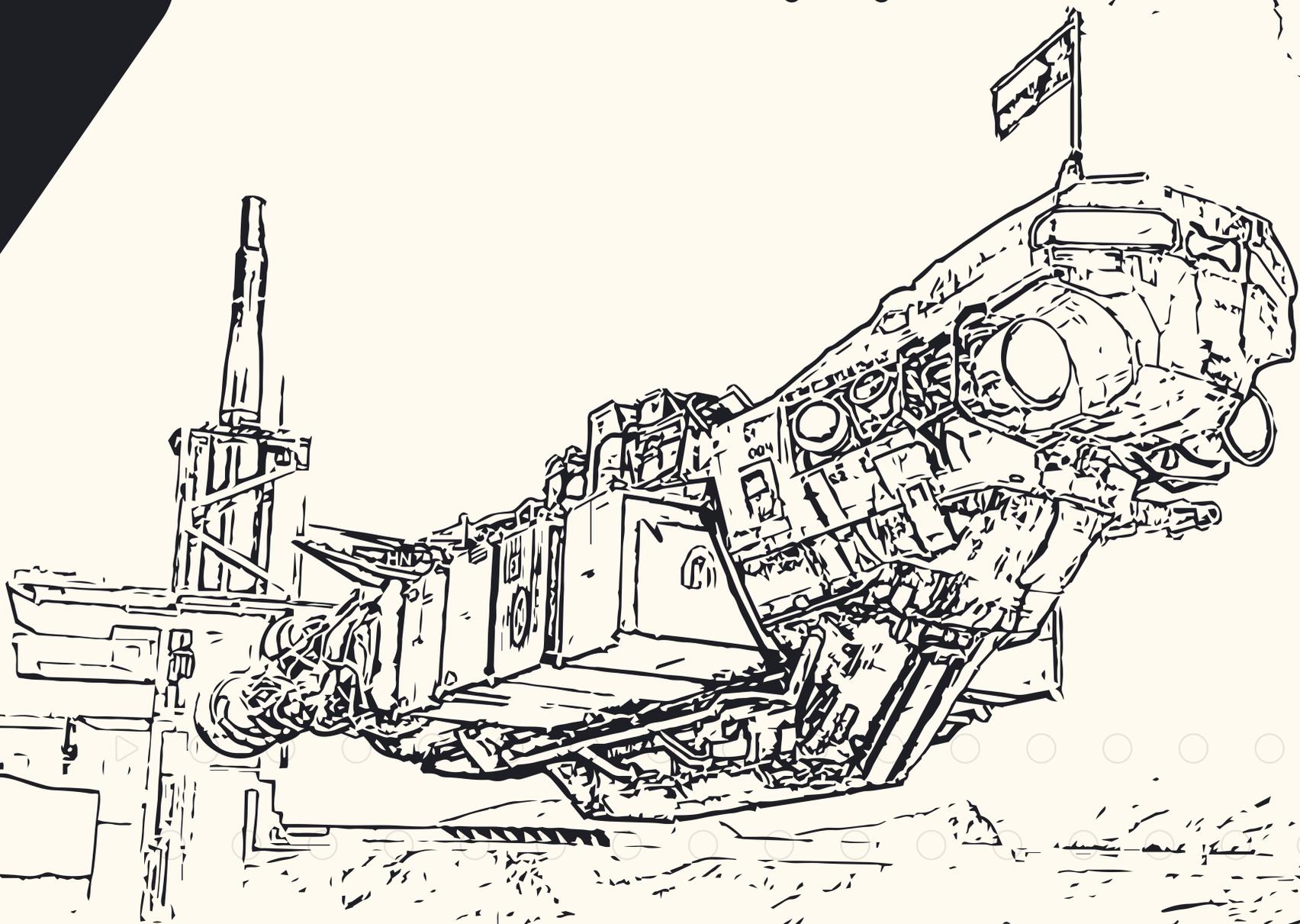


# Gameplay Pillars

## ▶ Economics

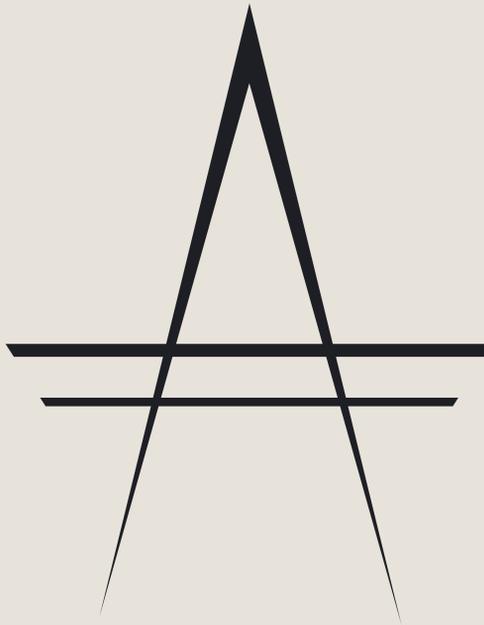
Unlike most games in existence today, Star Atlas provides a unique opportunity for players to extract in-game virtual earnings into real-world income. Where many game developers opt to monopolize asset ownership and distribution through restrictions on reselling, Star Atlas fully embraces the potential 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:

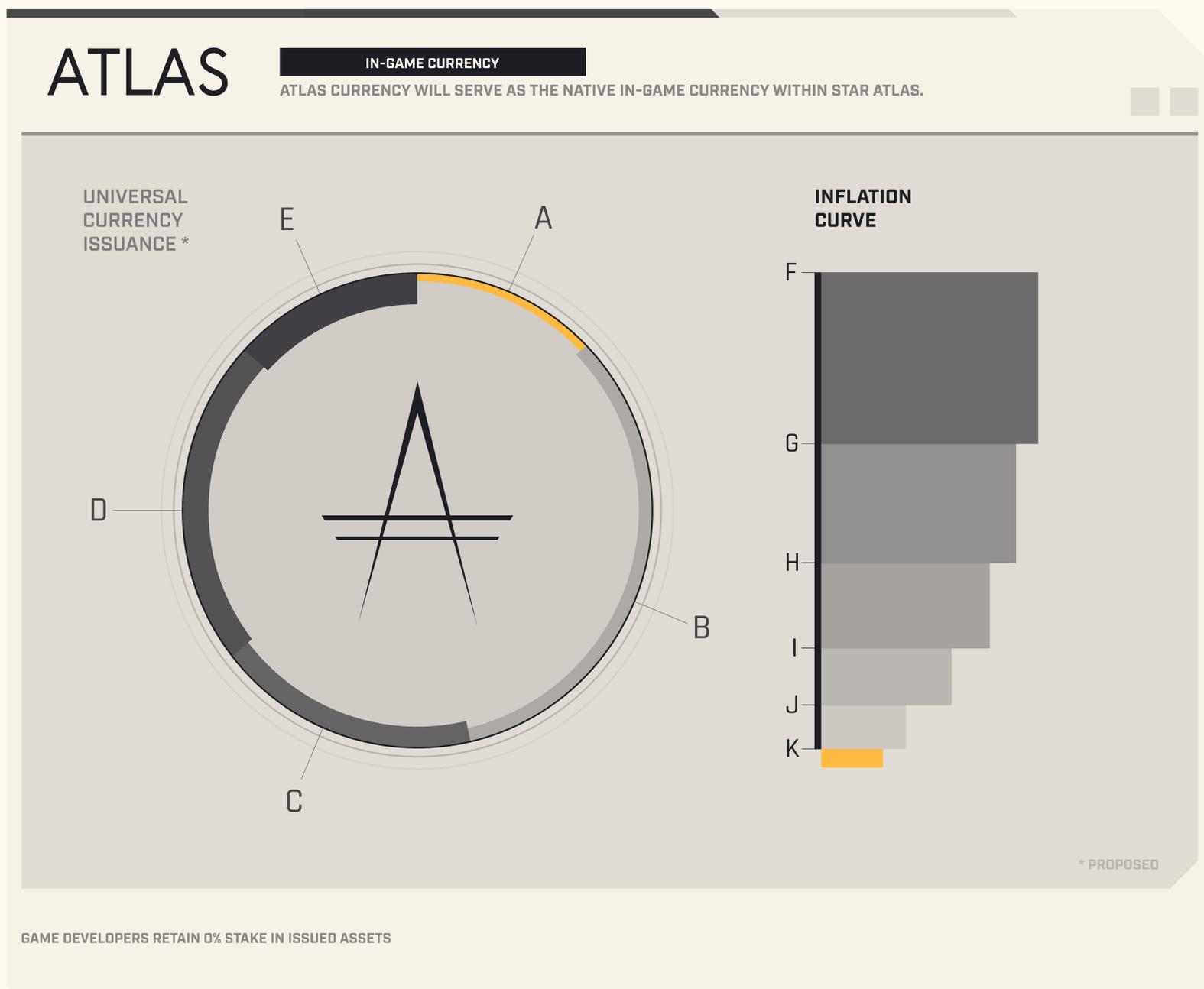
Mining Stations: 45% **B**

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·lis**<sup>2</sup> | *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.



# 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:

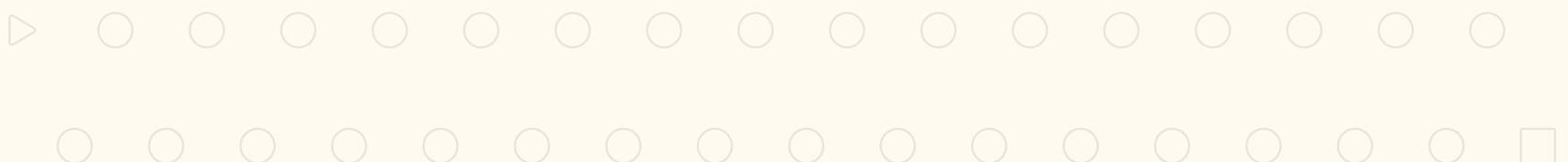
- **Lending**  
Loaning a variety of Solana/Serum assets to earn yield
- **AMM**  
Automated market making on various asset pairs to earn trade fees
- **Yield Farming**  
Identifying assets to borrow at lower yield, and lending/trading with higher yield, earning the spread on assets



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.



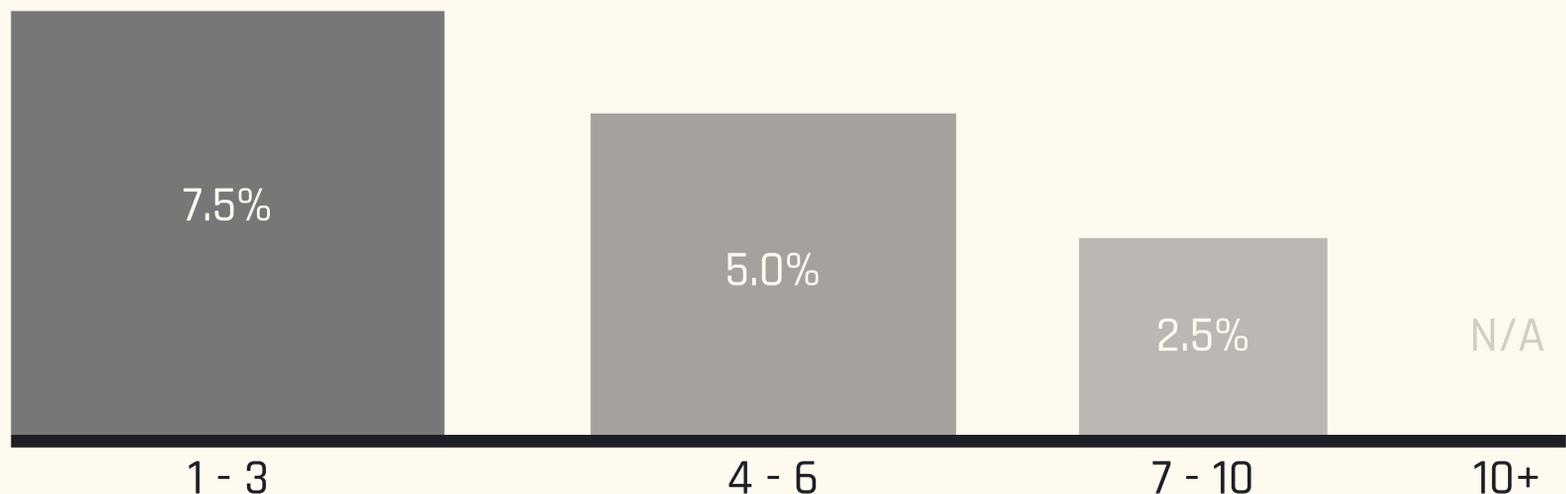
### Example ONLY



### 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.



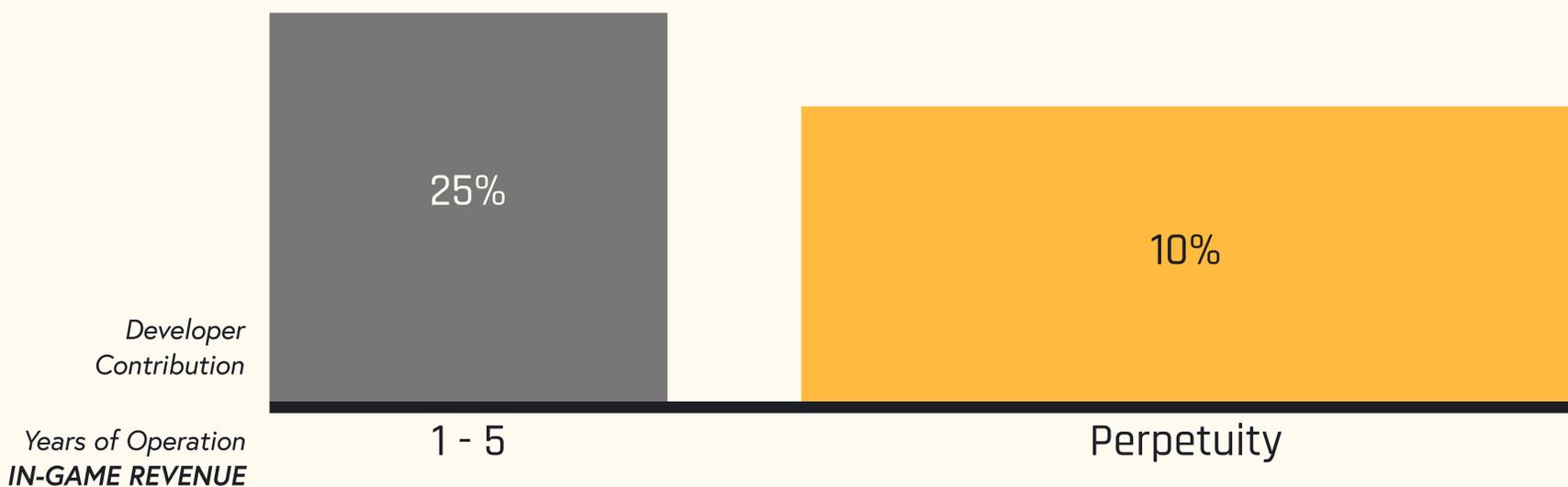
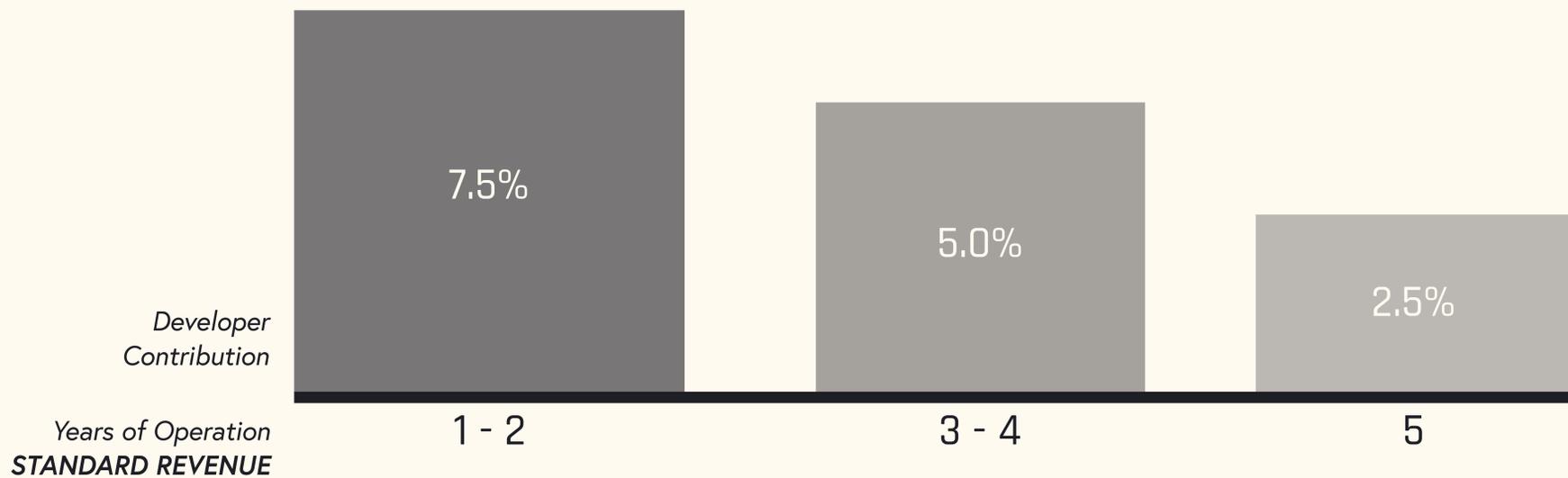
# Star Atlas Economics



## 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.





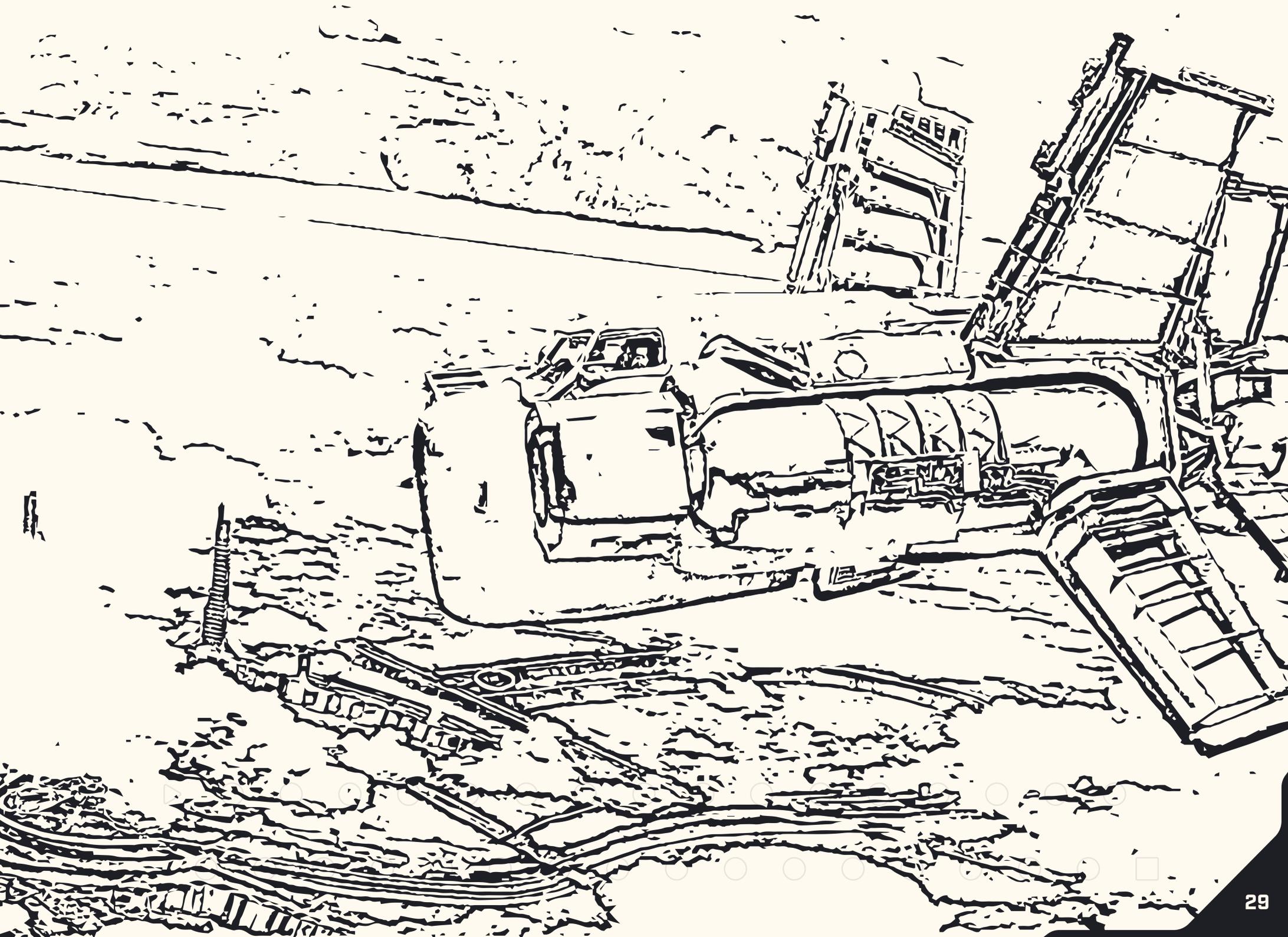
06

# 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.





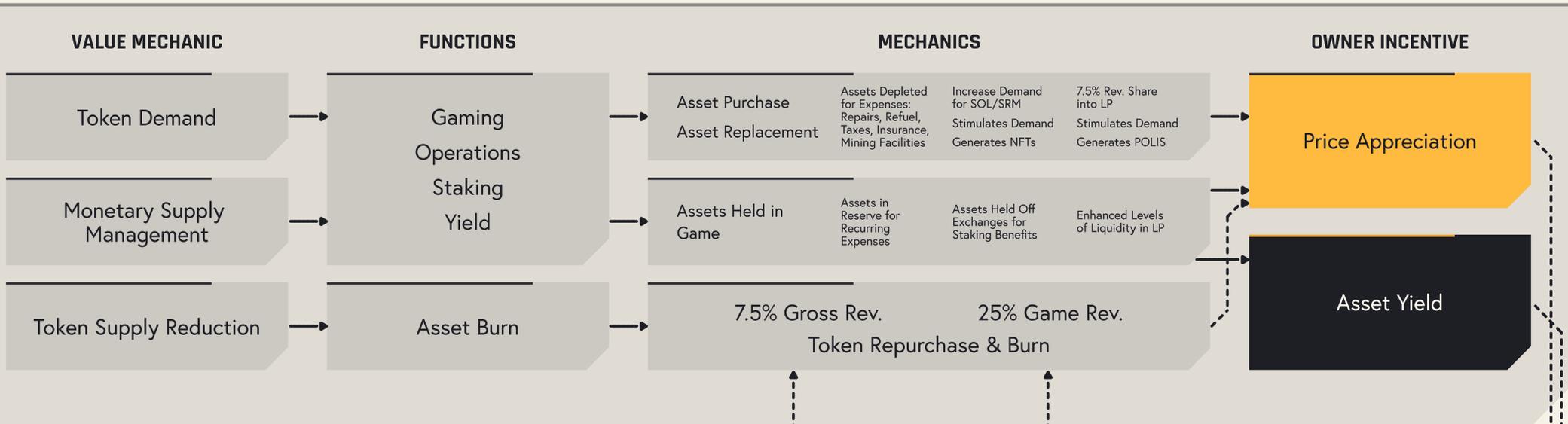
06

# Star Atlas Economics

## Star Atlas Tokenomics and Value Matrix

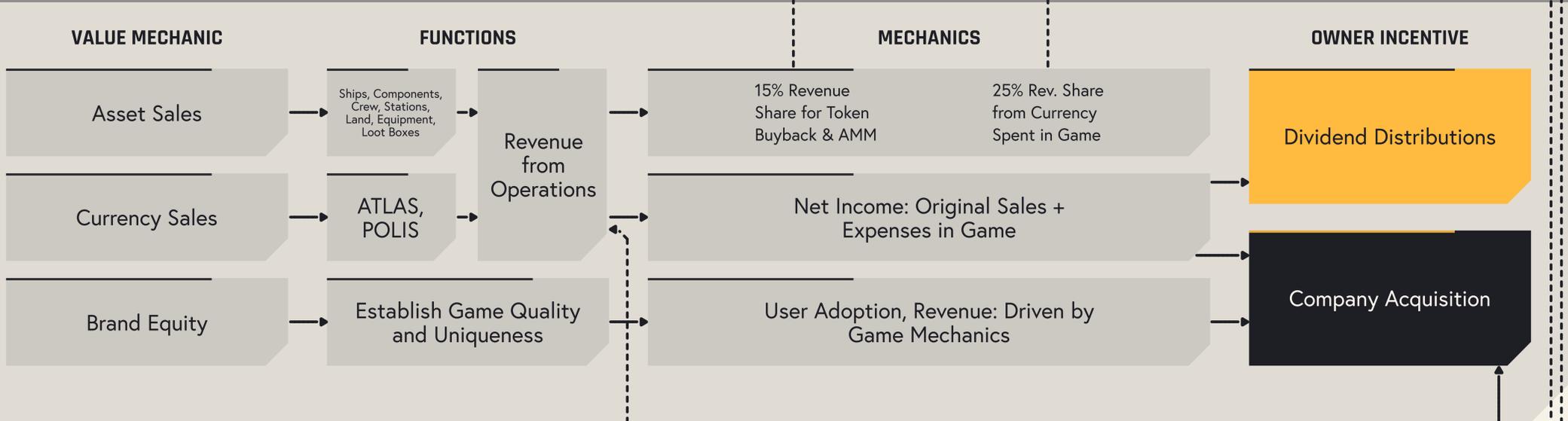
STAKEHOLDER

Tokens



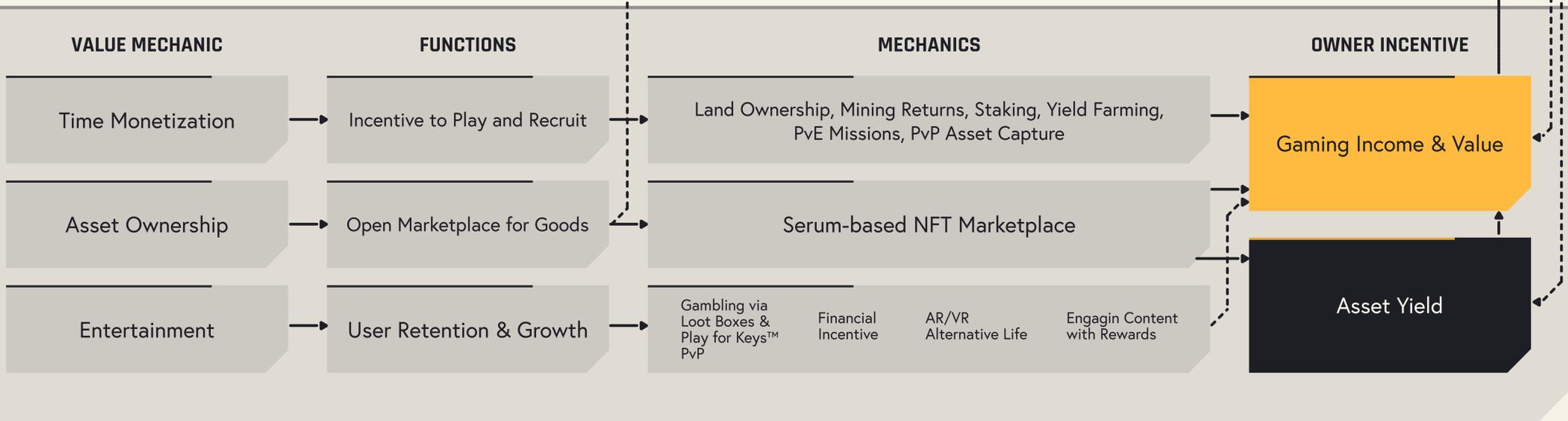
STAKEHOLDER

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..."*

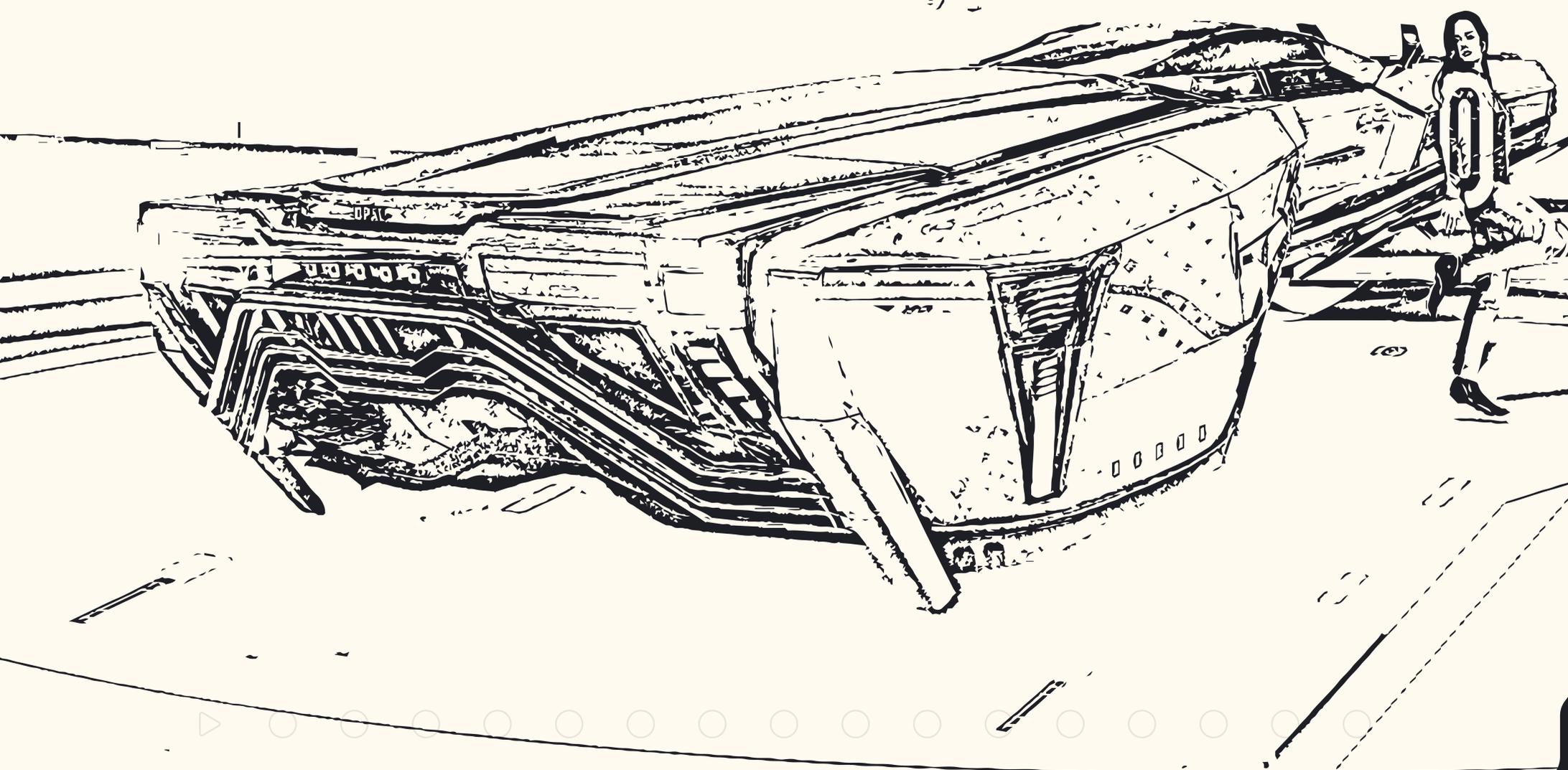
– Business Wire

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

– Statista

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

– ESA





07

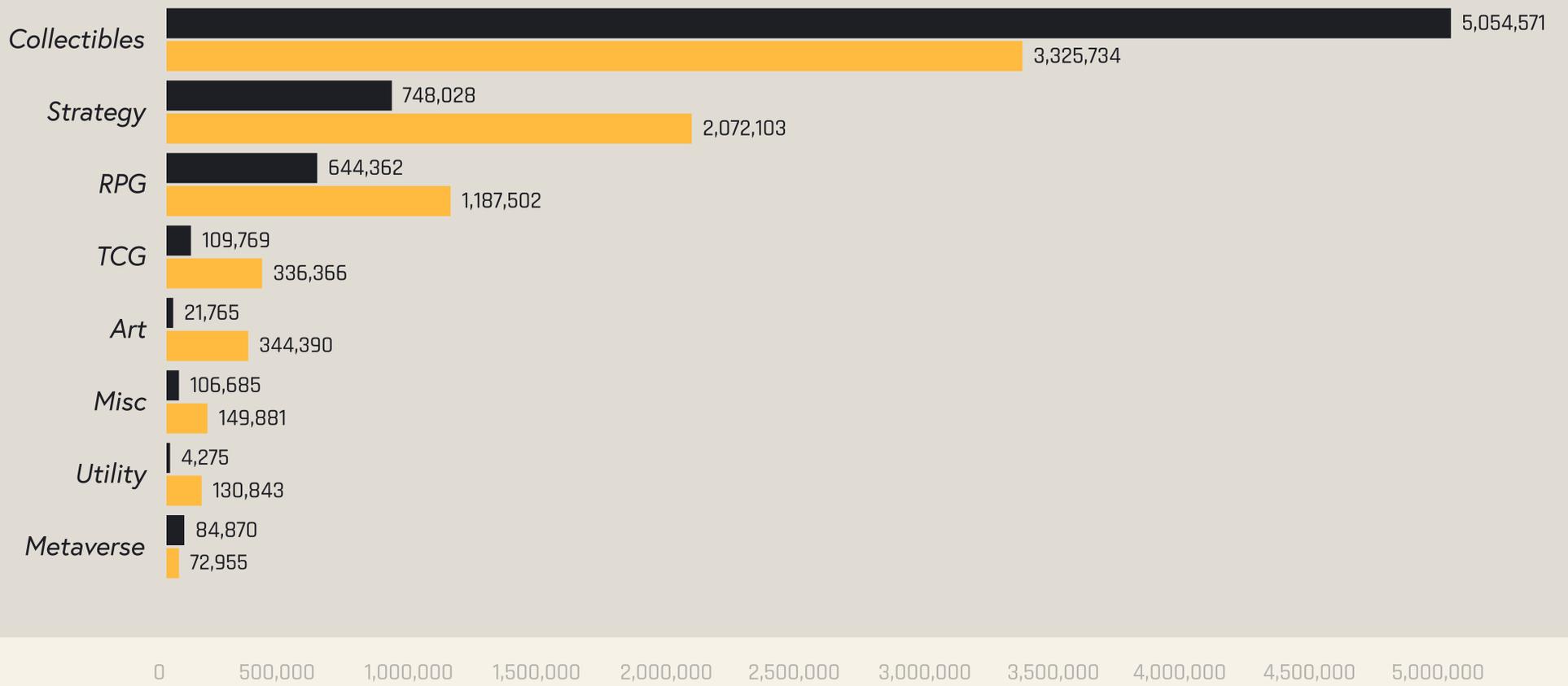
# Market Research



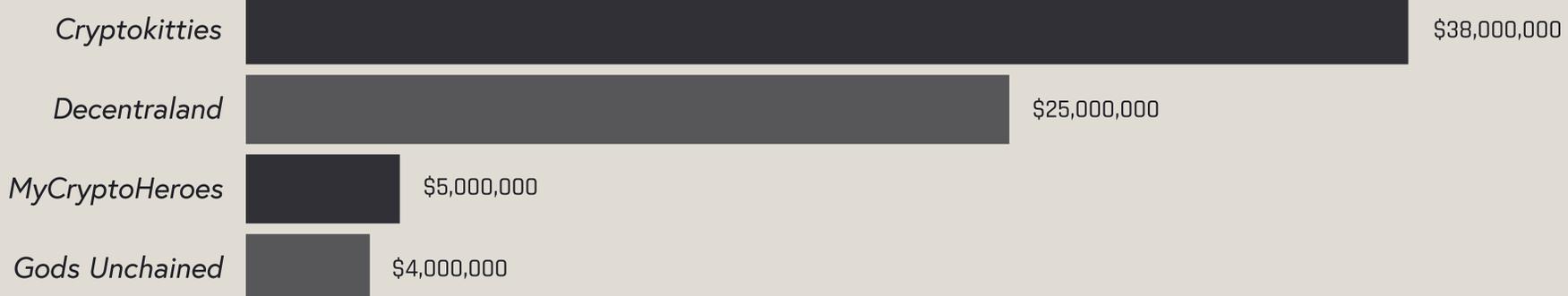
## NFT Market: An Asset Class In Demand

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*

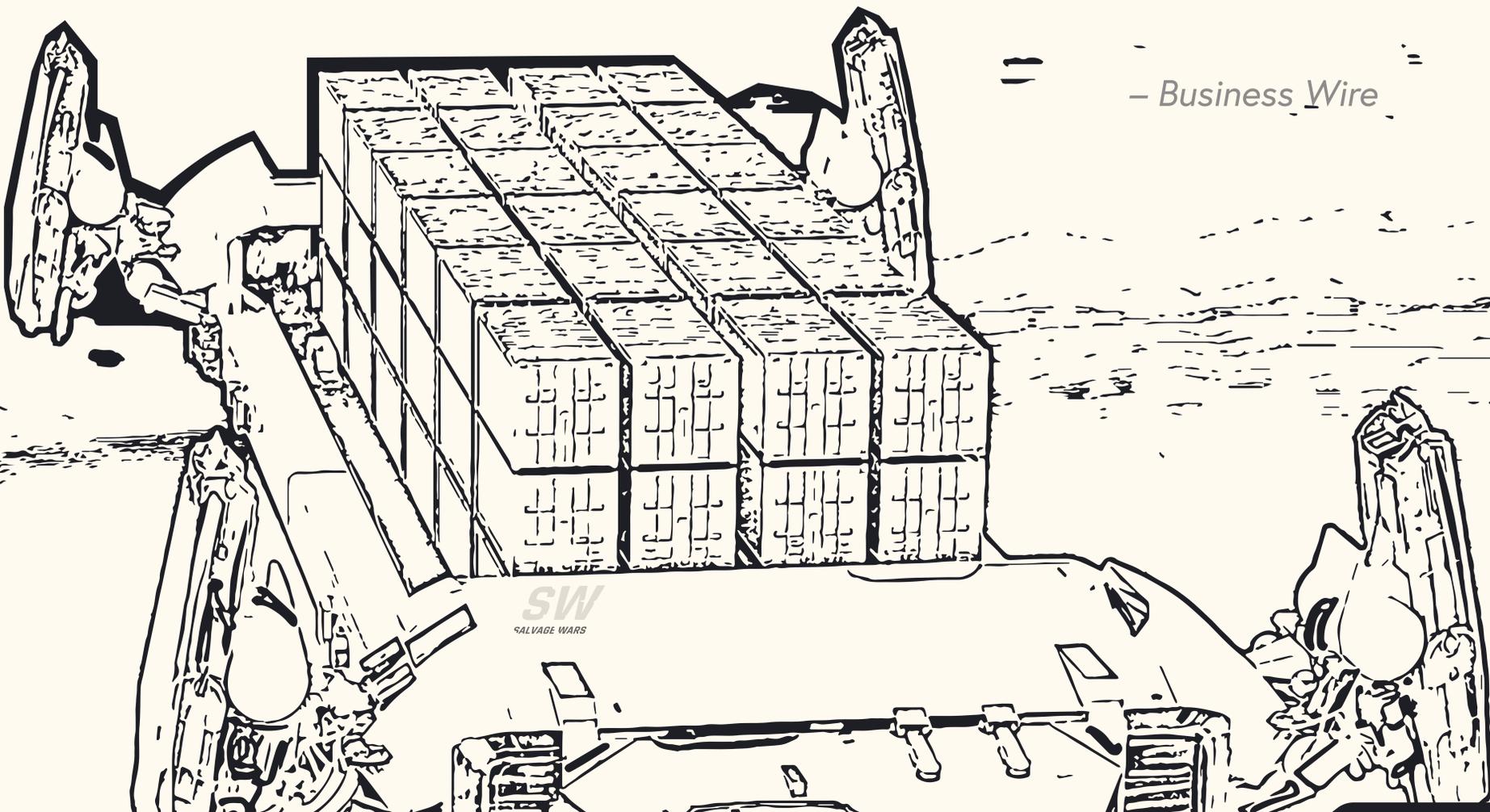


## Online Gambling Market

*"...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
<b>BLOCKCHAIN</b>	★	★	★	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	⊘	★
<b>MINING</b>	⊘	★	★	★	★	★	★	★	★	⊘	★	⊘	★	★
<b>EXPLORATION</b>	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
<b>COMBAT</b>	★	⊘	★	★	★	★	★	★	★	★	★	★	★	★
<b>CLAIM STAKING</b>	⊘	★	★	★	★	★	★	★	★	⊘	⊘	⊘	★	★
<b>MARKETPLACE</b>	★	★	★	★	★	★	★	★	★	★	★	★	★	★
<b>ORGANIZATIONS</b>	⊘	⊘	⊘	★	★	⊘	⊘	⊘	⊘	⊘	⊘	⊘	★	★

⊘ 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.



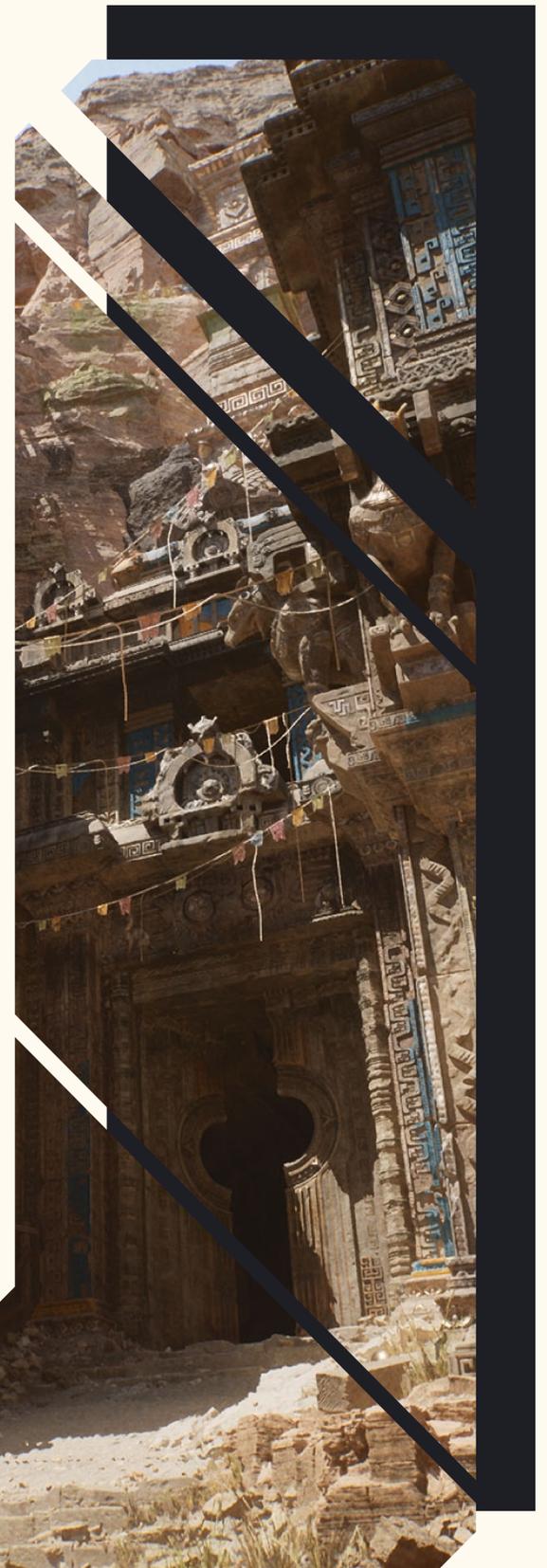
### Chaos

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.

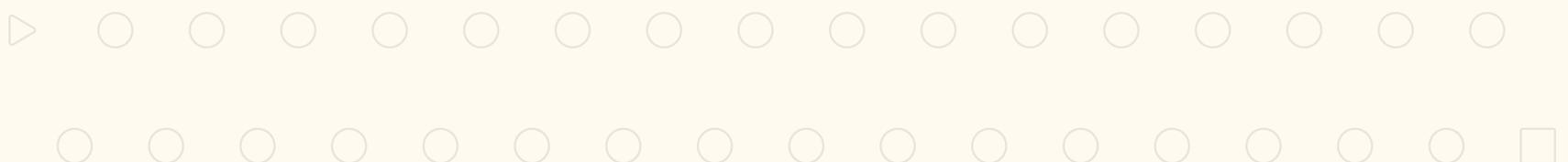




# Conclusion

**S**tar 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*.



# Reference

- 01 Wormhole — Solana/Ethereum Bridge  
<https://medium.com/solana-labs/wormhole-solana-ethereum-bridge-d5502e944acb>
- 02 Polis  
<https://en.wikipedia.org/wiki/Polis>
- 03 Unreal Engine 5 And Nanite Virtualized Geometry — What Does It Mean For Content Creators?  
<https://medium.com/xrlo-extended-reality-lowdown/unreal-engine-5-and-nanite-virtualized-geometry-what-does-it-mean-for-content-creators-b4106accd306>
- 04 Global Online Gambling Market 2020-2024 | Rising Popularity of the Freemium Model to Boost Market Growth | Technavio  
<https://www.businesswire.com/news/home/20200319005258/en/Global-Online-Gambling-Market-2020-2024-Rising-Popularity-of-the-Freemium-Model-to-Boost-Market-Growth-Technavio>
- 05 'DeFi' movement promises high interest but high risk  
<https://www.ft.com/content/16db565a-25a1-11ea-9305-4234e74b0ef3>
- 06 Global Online Gambling Market Forecast to Increase Significantly Due to COVID-19 Lockdown, Reaching \$92.9 billion in 2023 at CAGR of 11.64%  
<https://www.businesswire.com/news/home/20200515005422/en/Global-Online-Gambling-Market-Forecast-to-Increase-Significantly-Due-to-COVID-19-Lockdown-Reaching-92.9-billion-in-2023-at-CAGR-of-11.64.---ResearchAndMarkets.com>
- 07 Total Value Locked in Defi Surpasses \$4 Billion, ETH Up Over 70% Last 30-Days  
<https://news.bitcoin.com/total-value-locked-in-defi-surpasses-4-billion-eth-up-over-70-last-30-days/>
- 08 Star Atlas: Your Interstellar Adventure Awaits  
<https://staratlas.com>



# Reference



## Disclaimer

PLEASE READ THIS DISCLAIMER SECTION CAREFULLY. IF YOU ARE IN ANY DOUBT AS TO THE ACTION YOU SHOULD TAKE, YOU SHOULD CONSULT YOUR LEGAL, FINANCIAL, TAX, OR OTHER PROFESSIONAL ADVISOR(S).

The information set forth below may not be exhaustive and does not imply any elements of a contractual relationship. While we make every effort to ensure that any material in this White Paper is accurate and up to date, such material in no way constitutes the provision of professional advice. Star Atlas does not guarantee, and accepts no legal liability whatsoever arising from or connected to, the accuracy, reliability, currency, or completeness of any material contained in this White Paper. Participants and potential token holders should seek appropriate independent professional advice prior to relying on, or entering into any commitment or transaction based on, material published in this White Paper, which material is purely published for reference purposes alone.

Star Atlas will not be intended to constitute securities in any jurisdiction. This White Paper does not constitute a prospectus or offer document of any sort and is not intended to constitute an offer of securities or a solicitation for investment in securities in any jurisdiction. Star Atlas does not provide any opinion on any advice to purchase, sell, or otherwise transact with Star Atlas tokens and the fact of presentation of this White Paper shall not form the basis of, or be relied upon in connection with, any contract or investment decision. No person is bound to enter into any contract or binding legal commitment in relation to the sale and purchase of Star Atlas tokens, and no cryptocurrency or other form of payment is to be accepted on the basis of this White Paper. No person is bound to enter into any contract or binding legal commitment in relation to the sale and purchase of Star Atlas tokens, and no cryptocurrency or other form of payment is to be accepted on the basis of this White Paper.

This Star Atlas White Paper is for information purposes only. We do not guarantee the accuracy of or the conclusions reached in this White Paper, and this White Paper is provided "as is". This White Paper does not make and expressly disclaims all representations and warranties, express, implied, statutory or otherwise, whatsoever, including, but not limited to: (i) warranties of merchantability, fitness for a particular purpose, suitability, usage, title or non-infringement; (ii) that the contents of this White Paper are free from error; and (iii) that such contents will not infringe third-party rights. And its affiliates shall have no liability for damages of any kind arising out of the use, reference to, or reliance on this White Paper or any of the content contained herein, even if advised of the possibility of such damages. In no event will team Star Atlas or its affiliates be liable to any person or entity for any damages, losses, liabilities, costs or expenses of any kind, whether direct or indirect, consequential, compensatory, incidental, actual, exemplary, punitive or special for the use of, reference to, or reliance on this White Paper or any of the content contained herein, including, without limitation, any loss of business, revenues, profits, data, use, goodwill or other intangible losses. Star Atlas makes no representations or warranties (whether express or implied), and disclaims all liability arising from any information stated in the White Paper. In particular, the "Roadmap" as set out in the text of the White Paper is subject to change, which means that Star Atlas is not bound by any representations to the future performance and the returns of Star Atlas. The actual results and the performance of Star Atlas may differ materially from those set out in the Star Atlas White Paper.



# Reference



Please note that contents of Star Atlas White Paper may be altered or updated at any time in future by the project's management team. No shares or other securities of the Company are being offered in any jurisdiction pursuant to the White Paper. The White Paper does not constitute an offer or invitation to any person to subscribe for or purchase shares, rights or any other securities in the Company. The shares of the Company are not being presently offered to be registered under Securities Act of any country, or under any securities laws of any state. The tokens referred to in this White Paper have not been registered, approved, or disapproved by the us securities and exchange commission, any state securities commission in the United States or any other regulatory authority nor any of the for Star Atlas authorities examined or approved the characteristics or the economic realities of this token sale or the accuracy or the adequacy of the information contained in this White Paper under, the US. Securities act of 1933 as amended, or under the securities laws of any state of the united states of America or any other jurisdiction. Purchasers of the tokens referred to in this White Paper should be aware that they bear any risks involved in acquisition of Star Atlas tokens, if any, for an indefinite period of time. Some of the statements in the White Paper include forward-looking statements which reflect Star Atlas's current views with respect to product development, execution roadmap, financial performance, business strategy and future plans, both with respect to the company and the sectors and industries in which the company operates. statements which include the words "expects", "intends", "plans", "believes", "projects", "anticipates", "will", "targets", "aims", "may", "would", "could", "continue" and similar statements are of a future or forward-looking nature. All forward-looking statements address matters that involve risks and uncertainties. Accordingly, there are or will be important factors that could cause the group's actual results to differ materially from those indicated in these statements. Any forward-looking statements in the White Paper reflect the group's current views with respect to future events and are subject to these and other risks, uncertainties and assumptions relating to the group's operations, results of operations and growth strategy. These forward-looking statements speak only as of the date of the White Paper. Subject to industry acceptable disclosure and transparency rules and common practices, the company undertakes no obligation publicly to update or review any forward-looking statement, whether as a result of new information, future developments or otherwise. All subsequent written and oral forward-looking statements attributable to the Project Star Atlas or individuals acting on behalf of Star Atlas are expressly qualified in their entirety by this paragraph. No statement in the White Paper is intended as a profit forecast and no statement in the White Paper should be interpreted to mean that the earnings of Project Star Atlas for the current or future years would be as may be implied in this White Paper. By agreeing to acquire Star Atlas token I hereby acknowledge that I have read and understand the notices and disclaimers set out above.

No regulatory authority has examined or approved of any of the information set out in this White Paper. Thus, no action has been or will be taken under the laws, regulatory requirements or rules of any jurisdiction. The publication, distribution or dissemination of this White Paper does not imply that the applicable laws, regulatory requirements or rules have been complied with. Please refer to our website for terms & conditions.

