

Working copy

RAD PAPER

CARDANIA

PROJECT OVERVIEW NOVEMBER 2021



WELCOME, CITIZEN

This paper aims to provide insight to the development goals, methodologies, organizational texture, and tokenomics of the Cardania project. Much of the current work is aimed at planning, building, and iterating a functional metaverse economy atop which can be built a number of engaging, interactive and rewarding experiences.

This paper does not cover the full breadth and depth of development possibilities, but highlights some current initiatives which we hope will stitch together well and form the foundation for ongoing development.

Disclaimer: This project is in development, and all aspects are subject to change.

What is Cardania? Cardania is our Metaverse ecosystem project. In the simplest terms, you can think of it as Gaming + NFTs + Cardano. Cardania as a “place” within the metaverse exists as a gigantic megastructure in the Sol system around the year 1M CE. [LORE LINK](#)

What is SUMN? The Summoning Pool is our stakepool on the Cardano network. The Summoning Pool produces blocks on the Cardano blockchain and also “lives” at the center of the Cardania megastructure. [ADAPools SUMN Link](#)

What is Cardania: Enter the Ultraverse? Enter the Ultraverse is Cardania’s trading card game, in development. [Enter the Ultraverse](#).

What are Terraforms? Terraforms are 100m x 100m resource-producing land blocks which players may collect and utilize.

What is RAD? RAD tokens serve as the basic utility token minted on the Cardano blockchain, and native currency of the Cardania Metaverse Ecosystem. RAD will initially be made available via crowdsale..

Long Term Vision: Ultimately, the goal of this project is to build **the most RAD destination in the metaverse**. Humans naturally seek enjoyable, engaging social and gaming experiences - and increasingly do that online. Early iterations of online metaverses (*MMO's are pretty close*) such as Everquest, WoW, Second Life, etc. while *extremely fun* suffered from the same major flaws - the gamification and economic systems of the “games” required massive human inputs of time, often more than a part time job. Despite these very real-world time commitments, the humans invested in these systems lacked any structured ability to profit from them.

In short, current games are a one way bumper. You spend your time + money, and own nothing.

The next generation of gaming facilitates ownership, rewards stake, provides opportunity, and reinvests in its users.

And it's fun.

DEVELOPMENT TREE



CARDANIA

Marbles & Community Events

The spherical miracle: Every Friday night, you can [join the Cardania community](#) on Twitch for Friday Night Marble Racing! To date, we have given away thousands of ADA worth of CNFT prizes to dozens of winners. This event has become a staple in our community and we intend to keep *rolling with it*. No downloads required - Just have a wallet with a Founder's Card in it in order to be eligible to collect a prize.



A promotional banner for Cardania Friday Night Marble Races. The background is a dark, starry space with bokeh light effects. At the top, the word "CARDANIA" is written in a stylized, metallic, 3D font. Below it, "FRIDAY NIGHT 10PM PST" is written in a bold, orange, blocky font. The main title "MARBLE RACES" is in a large, bold, orange, blocky font. Below that, "WIN ETERNAL GLORY + EXCLUSIVE NFT PRIZES" is written in a bold, purple, blocky font. At the bottom, "TWITCH.TV/CARDANIA_2021" is written in a bold, purple, blocky font. To the left of the text is a small, glowing purple sphere. To the right is a small, glowing purple sphere. Below the text are several small images: a stack of colorful cards, four square icons with different designs, and two Cardania NFT cards. One card is titled "CARDANIA FOUNDER" and the other is titled "CARDANIA ULTRAVERSE".

Some sample community art from CNFT artists who
have contributed to our glorious weekly ritual



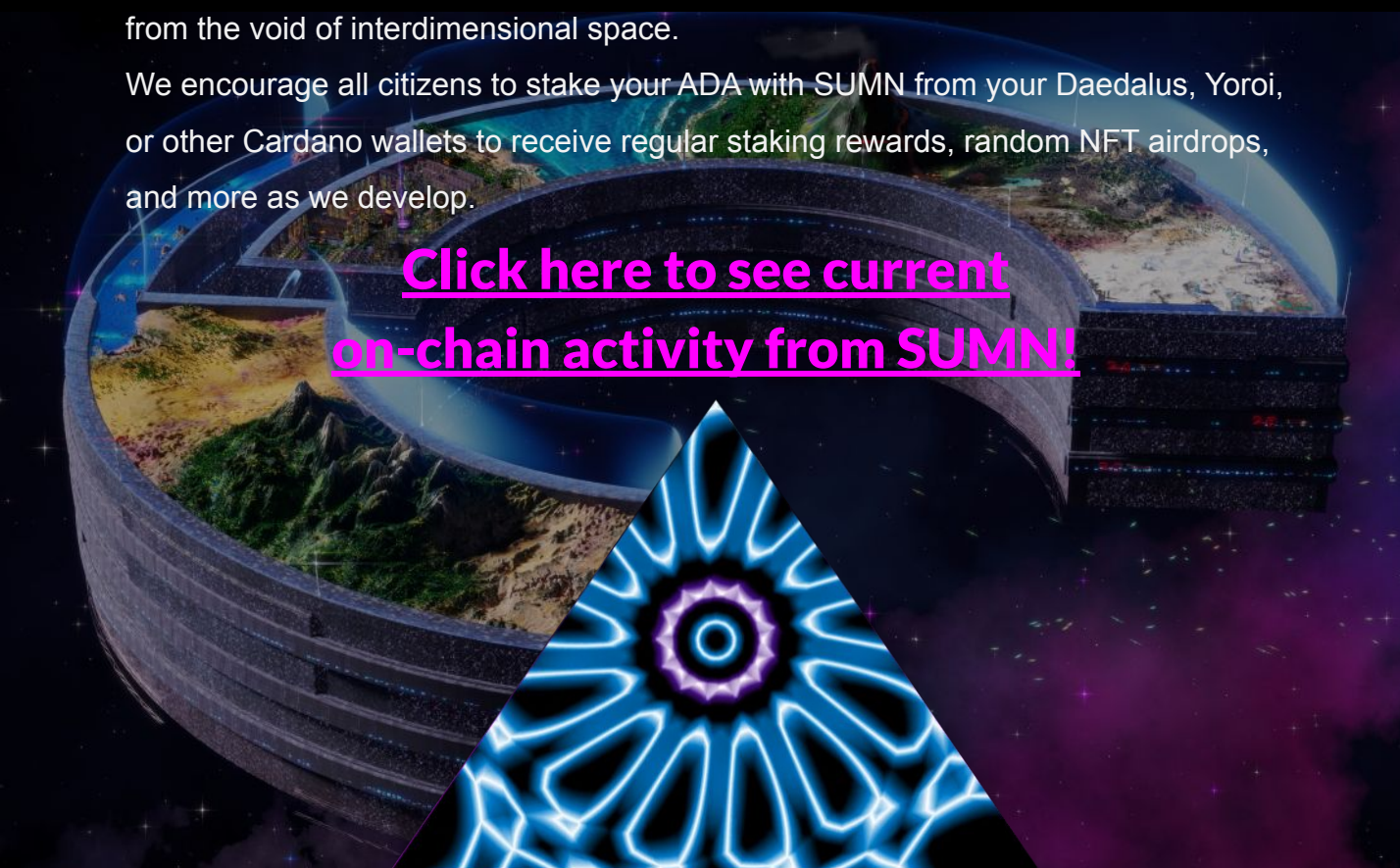


THE SUMMONING POOL

The beating heart of Cardania is the SUMMONING POOL [SUMN], our stakepool on the Cardano network. The Summoning Pool paradoxically powers the enormous space station, and also summons an endless array of creatures, magic, and trouble from the void of interdimensional space.

We encourage all citizens to stake your ADA with SUMN from your Daedalus, Yoroi, or other Cardano wallets to receive regular staking rewards, random NFT airdrops, and more as we develop.

[Click here to see current
on-chain activity from SUMN!](#)



CARDANIA

Lore

Cardania is an ancient, continent sized megastructure in the Sol System. Slowly constructed and expanded over many millennia by previous generations, Cardania is a glorious, chaotic testament to humanity's perseverance in the void of space.

Across a million years, numerous civilizations, species, and factions have risen and fallen across, around, and inside Cardania. Countless calamities have befallen the structure, but she remains a habitable, albeit treacherous place to call home.

The beating heart of the megastructure is the "**Quantum Dark Energy**" drive, an ancient megalith which allows limited teleportation of Cardania across space, time, and dimensions. The Quantum Dark Energy drive is powered primarily by the **Summoning Pool**, a mystical interdimensional portal and limitless source of energy. Cardania thus travels to new locations for limited excursions, though often without the control or consent of her citizens. Cardania always (eventually) returns to her anchor point in the Sol system of the material dimension.

Players will find themselves in Cardania around the year 1M CE.



FACTIONS

Solar Barbarians - "The Solar" are genetically gifted, physically massive specimens of humanity. A powerful tribe of sun worshipping humans once left Earth to colonize the stars. Their civilization stretched across all of Sol, or so the stories claim - The Solar are the descendants of this once powerful empire. They now carve a tribal life in the hinterlands, enjoying the fruits of conquest and building toward the day that the Solar Empire will rise again. While considered little more than savages by the Imperators, the Solar Barbarians have a deeply rooted tribal hierarchy and honor system.

Void Priests - Legends hold that Cardania itself is a massive living entity, of great spiritual power. For generations, the Void Priests have worshipped Cardania as nothing less than a deity. Through secretive traditions, the Priests harness raw psychic energy to create miracles and rain holy destruction upon their enemies.

Technomages - The Guild of Technomages have endured for nearly a millennia of Cardania's current age. Through generations of discovery and scientific inquiry, the Technomages have unlocked many ancient mysteries of Cardania and put their discoveries to good use. They are also responsible for a number of calamities and near extinction level events. With their use of bio-enhancements, cybernetic implants, nanite injections and neural stimulants, the Technomages are perhaps more machine than human.

Spacers - "Spacer" is the name given to those Cardanians who eschew the gravity bound life and instead choose to build and run their own ships. While it is a difficult lifestyle, talented, adventurous citizens can make a good living with trading or mining expeditions. Others earn their way through smuggling, piracy, and other such black market work. Spacers tend to live fast and die young. Some successful spacers have managed to create their own orbital stations.

Imperators - Many citizens choose to live within the relatively orderly boundaries of Imperator control. While their laws can be stringent and punishments severe, it's a small price to pay for not being consumed by Void Worms in the wastes. Imperators are motivated by ensuring humanity survives, no matter the sacrifices that requires.

The Fungus - A species of intelligent fungal based lifeforms that dwell primarily under the surface of Cardania. The Fungus enjoys a diverse evolutionary tree - Some are considered violent nuisances, while others engage with humanity as benevolent, spiritual guides. The Fungus are thought to be nearly as ancient as the Custodians.

The Custodians - The one constant in Cardania are the Custodians, an enigmatic hive of self-replicating Artificial Intelligence that tirelessly builds, repairs, and makes habitable the megastructure.

The Darkness - Paradoxically, the Summoning Pool that powers the very heart of Cardania also conjures all manner of chaotic creatures, plagues, and terrors from the Void. These creatures routinely wreak havoc across the world and have been responsible for countless calamities across time immemorial. Over time, Summoners have come to recognize a malign intelligence behind the creatures and that source is now collectively known as "The Darkness".



RAD TOKENS



RAD tokens serve as the native currency of the Cardania Metaverse Ecosystem, minted on the Cardano blockchain.

Total Supply: 90 Billion RAD

Why 90B?

1) **Explicitly 2x Cardano's supply.** We feel it makes sense for the token to always maintain a lower relative price to the base chain currency to incentivize use based on "unit bias" - The 2x supply should help facilitate that across time and unknown variables.

2) **Microtransaction Liquidity** - 90 Billion will provide long-term liquidity across our ecosystem to ensure multiple games and projects are grown and maintained within the same currency stack.

Token Distribution

- **60% (54B) Crowdsale Tranches (20% each year over 3 years)**
- **10% (9B) reserved for Core Team.**
- **10% (9B) reserved for Core Development.**
 - 1B earmark for RAD 4 Streamers
- **10% (9B) reserved for Community Rewards (Lands, Pool, Prizes, etc.)**
- **05% (4.5B) reserved for in-game rewards.**
- **05% (4.5B) reserved for DAO development.**

1st tranche = **Nov 2021** (20% total supply on sale) **18B** on sale, **1 ADA per 1,000 RAD**

2nd tranche = **Nov 2022** **18B** on sale

3rd tranche = **Nov 2023** **18B** on sale

---After conclusion of 3rd tranche, **Community owns 60% of the token.**



"Sinks" Deflationary Mechanisms:

(Ways in which RAD is spent or used by holders and taken out of the economy)

Digital Asset Purchases - Land NFTs, Cards and Card Packs, Ships, Avatars, Equipment, etc.

In-Game Purchases - Ongoing sinks will exist for Consumables, Exp boosts, Cosmetics, Death mechanics, Auction House Fees, Services, Upgrades, etc.

Faction Tribute System - Community members may offer RAD tribute for community and faction level benefits.

DAO - Initiative Funding

"Faucets" Inflationary Mechanisms:

(Ways that the project distributes RAD)

Crowdsale - Deployment of liquidity into the hands of early adopters.

Gameplay: Players of Cardania ecosystem regularly win RAD via quests, loot, and general game interactions.

Community Events - Players can win RAD by participating in regular community events.

DEXs: Liquidity available on one or more exchanges as available.

DAO: The Cardania DAO may choose to fund particular initiatives, development, events, etc. outside of the Core Development team. *The Cardania DAO has not yet been established and ownership or purchase of the RAD token does not imply a governance stake at this time.*

Token Utility:

Digital Asset Purchases - Land NFTs, Cards and Card Packs, avatars, etc.

In-Game purchases - Exp boosts, cosmetics, etc.

RAD Universal 25% Discount - Tokens will be utilized for discounted purchases of all Cardania digital assets. Digital assets available in ADA will be available in RAD at a discounted rate.

Exclusive Access - Many community initiatives and game features will require RAD to access and participate with.

R&D - The RAD token will serve as the basis for ongoing Research and Development, ensuring holders reap the benefits of our constructions, discoveries, and tests.

What about Liquidity Pools?: We do not plan to incorporate liquidity pools into our tokenomics at this time, but will continue to evaluate opportunities to develop value where it makes sense.

ENTER THE ULTRAVERSE



Unopened Packs

- ~100 unique cards with 5 rarity levels
- ~7,000 Unopened Packs (6 cards per pack)
- ~42,000 total cards
- A playable deck will require ~30 cards

Each pack contains a mix of two factions:

Transfungalism	Fungus + Technomages
Symbiosis	Fungus + Solar Barbarians
Dark Technologies	Technomages + Void Priests
Technocracy	Imperators + Technomages
Cleansing Fire	Solar Barbarians + Imperators
Unannounced	Spacers + Custodians
Unannounced	Spacers + Void Priests



Click here to purchase

Pack redemption date pending completed production of all card art!

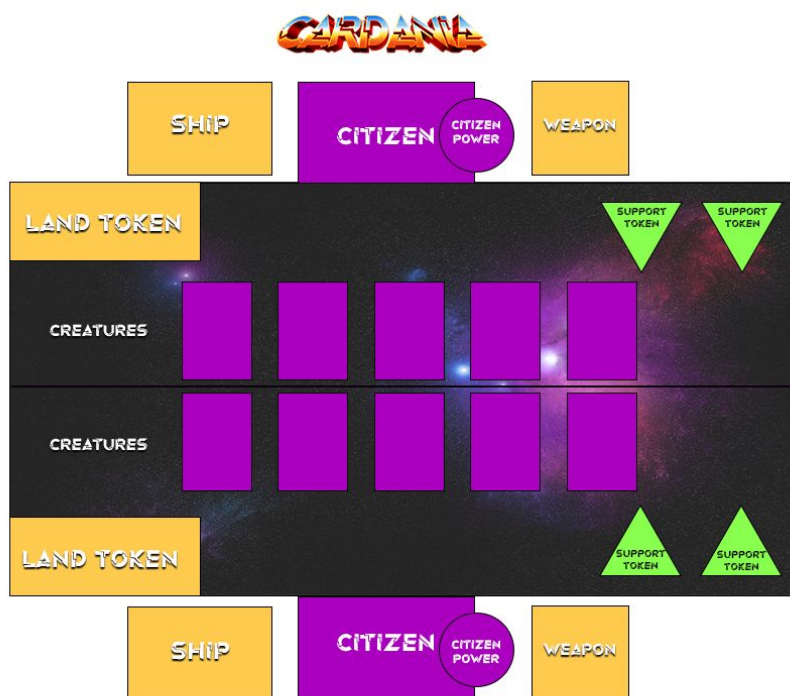


CARDANIA

ENTER THE ULTRAVERSE

C A R D A N I A . C O M

Enter the Ultraverse players can expect an experience similar to Magic: The Gathering, and Hearthstone. Where the games diverge is in the interaction between player avatars “Citizens”, Ships, Land and Support tokens which provide additional layers of complexity and diversity of playstyle.



Founder Cards



Founder Cards are limited edition collectible tokens. There are only 10,000 total Founders Cards with 3 rarity levels:

Black, White	250 of each
Orange, Purple	1,000 of each
Red, Green, Blue	2,500 of each

Founders Cards offer significant exclusivity within the Cardania ecosystem, but should simple be treated as collectible art.

Hold Founders Cards in your wallet for a chance to win future airdrops of art, cards, packs, tokens, and more.

Black and White cards are sold out but can be found on [CNFT.io](https://cnft.io)

Click to Purchase

[Click here to view remaining cards](#)

Mysterious Orbs



Mysterious Orbs have a 1/100 chance to drop **when you purchase a Founder's Card**. They allow exclusive access to the [ARCHIUM](#), an NFT vault that contains rare 1/1 Cardania NFTs which cannot be purchased elsewhere. If you acquire an Orb, send it to the [ARCHIUM](#) wallet in order to receive a random rare token!

Interplanetary Postage Collection

The Interplanetary Postage collection includes 1,000 beautifully designed stamps, produced in collaboration with [DBStudio](#). Be on the hunt for rare Silvers (6%) and Golds (4%)!



Click to Purchase

TERRAFORMS V.1

Terraforms

Terraform are 100m x100m lands within the Cardania metaverse. 20,000 land tokens will be minted for V1. Each land token is imbued with a unique set of resources.

Pending Development:

Terraforms generate RAD tokens when linked to the Summoning Pool (Living Lands Formula) and physically shift within their Alpha Sectors, based on their embedded Quantum Flux score.



- Prismatic
- Artificial
- Grassy
- Fungal
- Rocky
- Tundra
- Volcanic
- Desert
- Badlands
- Wasteland

Sectors

Alpha Sectors - Alpha Sectors are the first land locales which we'll develop. **Asama** will be the first deployed and we'll grow as development allows.

Foundation

Asama

Arshi En

Hundun

New Pana

Zhu Sol

Morphia

Hyperion

Gefion

Mapping & Coordinates - We're utilizing off-chain X,Y,Z coordinate mapping to ensure development flexibility. Each token is assigned a particular Alpha Sector but may automatically move within its Alpha Sector, development, and each token's embedded Quantum Flux score.

Terraforms are 100m x 100m resource-producing land blocks on Cardania which players may collect and utilize. We are approaching from the philosophical perspective that we would like Cardania to be a living, breathing, unique and vibrant place. We seek to provide the overall parameters and vibe of the world, and over time we will provide players with opportunities to take greater control over the factions, stories, and events.

“Living Lands” - This formula will integrate variable productivity into our land digital assets. We’re coining this concept “Living Lands”. **The concept is to tie aspects of tokenized land to the automated processes, or the “heartbeat” of a Stakepool operating on the Cardano blockchain.** For our purposes, production is tied to the delegation and performance of [SUMN], and is modified using a hard-coded multiplier in each land token.

Living Lands Formula:

Delegation Score [D] = Total Delegation / Total Delegators
 Delegation Score Modifier [Dm] = tentatively (.1)
 Delegation Score Total [Dt]
 Block Score [B] = Total blocks produced in prior epoch
 Block Score Modifier [Bm] = tentatively 100
 Block Score Total [Bt] = ([B] x [Bm])
 Total Score [T] = [Dt] + [Bt]
 Land Constant [LC] = tentatively (.01)
 Land Modifier [L] = *individualized NFT encoded modifier score between 1-9*
 RAD Distribution [R] = [T] x [LC x L]

[D x Dm] = [Dt]
 [B x Bm] = [Bt]
 [Dt] + [Bt] = [T]
 [T] x [LC x L] = [R]

Long Form:

[Delegation Score] x [Delegation modifier]
 + [Block Score] x [Block modifier]
 = Total Score [T]
 Total Score [T] *
 Land Constant [LC] .01 *
 Land Modifier [L]) = **RAD distribution [R]**

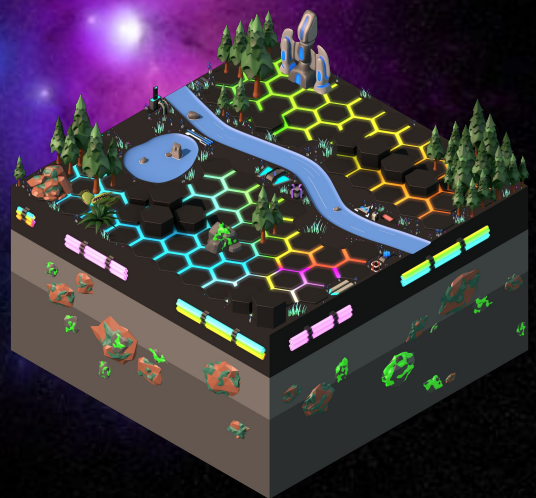
EXAMPLE:

50M (ADA Delegation)
 / 2500 (Delegators)
 x [Dm] (.1)
 = **2,000 [Dt]**
 +
 [[B] (12) x ([Bm] 100)]
 = **1,200 [Bt]**

[1,200] + [2,000]
 = **3,200 [T]**
 [T] * [LC(.01) x L]
Land X w/ 1 Land modifier [L] = 32 RADs that epoch
Land Y w/ 5 modifier [L] = 160 RADs that epoch
Land Z w/ 9 modifier [L] = 288 RADs that epoch

At 50,000 lands = ~8,000,000 per epoch at avg of 5 modifier.
At 9B reserved = 1,125 epochs of production. (15.4 years) *
 At 20,000 lands = ~3,200,000 per epoch at avg of 5 modifier.
At 9B reserved = 2,812 epochs of production. (38.5 years) *

THESE ARE EXAMPLES ONLY AND THESE NUMBERS MAY BE ADJUSTED TO ENSURE ECONOMIC LONGEVITY OF THE ECOSYSTEM. THE EXPLICIT GOAL IS LONG-TERM SUSTAINABILITY.



Only 250 Prismatic lands exist, surrounding the Summoning Pool

*RAD Reward pool can be replenished via economic “sinks” (pg 16) This replenishment is **not** factored into the current calculations and should **increase longevity.**

TERRAFORMS V.1

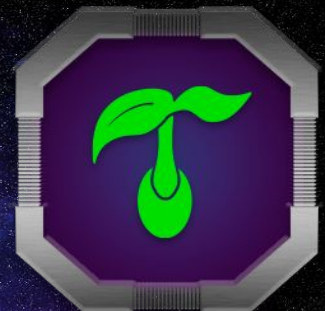
CARDANIA
TERRAFORMS V.1
ALPHA SECTORS



TERRAFORMS V.1

Resources

Energy
Quantum Dark Energy
Prismaleaf
Runes
Cardanium
Iron
Copper
Radium
Gems
Fossils
Stone
Wood
Plasma
Compacted Machinery
Water
Food (Greens)
Food (Meat)
Leather
Medicine
Fungal Spores
Alien Technology



DEPLOYMENT

Bot mitigation - While we can't guarantee a bot-free experience with our sales, we will employ a number of mitigation techniques which we hope will help ensure a fair and equitable token distribution.

More details for each sale will be released at the time of distribution.



TEAM

Jonathan Fishbein - Blockchain development

Chris Graff - Blockchain development

Cryptocoderz - Blockchain development

John Pethick - Digital Art

Shadowpriest - Digital Art

Boris Van Der Beek - Digital Art

Syoma - Digital Art

Marcel Stocker - Digital Art

Clay Price - Digital Art

RogueRaashk - Lore, Worldbuilding, Game design

Maleficara - Lore, Worldbuilding, Community

Miim - Physical tokencraft

Chris G - Founder, Project Lead

Special thanks to the countless community members who contribute to the project everyday. Shoutout to the Gauntlet Gang

