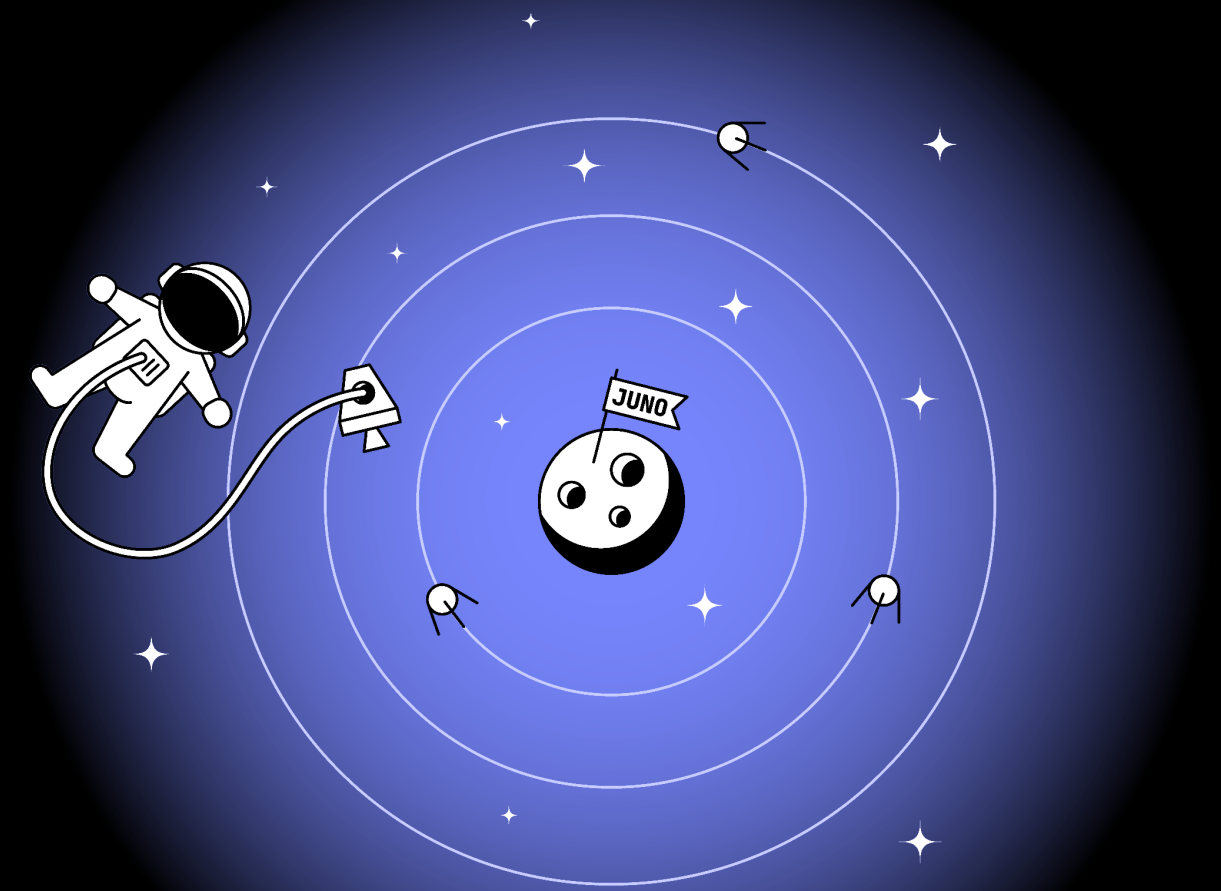
Build Web3 at Lightning Speed



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Disclaimer:

The projections and market analysis in this white paper are based on personal interpretations and insights, not on established numbers or verified data. These representations may be subjective and should not be taken as definitive market reflections.

Please note that the following is for informational purposes only and does not constitute financial advice.

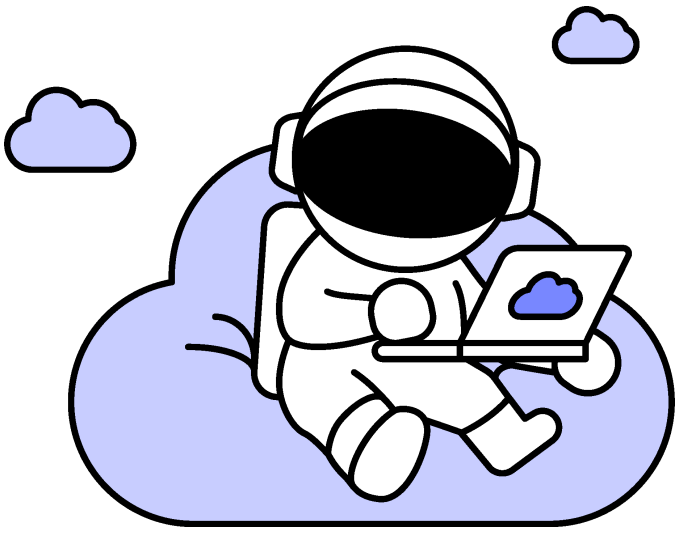
Have fun reading.

What is Juno?

Juno is a blockchain-as-a-service (“blockchainless”) platform that empowers developers to build decentralized apps efficiently. Similar to Web2 cloud service platforms but with significant improvements, it offers a comprehensive toolkit to scaffold secure and efficient projects running on the blockchain.

With Juno, developers can integrate features such as authentication, data and file storage, hosting, serverless functions, or on-chain analytics provided by smart contracts. This allows them to scaffold projects using familiar patterns while maintaining complete control over their work.

In short, Juno is the Google Firebase alternative for Web3.



Problems Statement

While Web2 cloud providers like Google Firebase and other Web2 cloud solutions have revolutionized the development landscape, they come with several inherent limitations and challenges.

1. Centralization

Web2 cloud providers are inherently centralized, meaning that all data and services are controlled by a single entity. This centralization poses several problems:

- **Single Point of Failure**: Centralized systems are vulnerable to outages or failures. If the cloud provider experiences downtime, all applications and services relying on it are affected.
- **Censorship and Control**: Central authorities can impose restrictions, censor content, or control access to data and services, limiting the freedom and autonomy of users and developers.

2. Data Privacy and Security

Web2 cloud providers often handle vast amounts of personal and sensitive data, raising concerns about privacy and security:

- **Data Ownership**: Users and developers typically do not have full ownership and control over their data. The cloud provider retains significant control and can access or share data without user consent.
- **Security Risks**: Centralized storage of data makes it an attractive target for hackers. Breaches can result in massive data leaks, exposing sensitive information.

3. Limited Transparency

The operations of Web2 cloud providers are often opaque, leading to a lack of transparency in how data is handled and services are managed:

- **Proprietary Systems**: Many cloud providers use proprietary technologies and systems, making it difficult for developers to understand and trust the underlying mechanisms.
- **Unclear Policies**: Privacy policies and terms of service can be complex and difficult to understand, leading to uncertainty about how data is used and protected.

4. Cost

While Web2 cloud services can be cost-effective initially, they often lead to higher costs over time:

- **Escalating Costs**: As applications scale, the costs associated with using cloud services can increase significantly, impacting the sustainability of projects.

Solution

Juno addresses the inherent limitations of traditional Web2 cloud providers by offering a decentralized, blockchainless platform designed specifically for the needs of modern Web3 development.

1. Decentralization

Juno aims to eliminate the reliance on centralized authorities, reducing the risk of single points of failure and censorship.

- **Autonomy and Control**: Developers retain full control over their applications and data, free from centralized oversight and restrictions.
- **Distributed Architecture**: Juno's decentralized infrastructure aims to ensure high availability and resilience against outages.

2. Data Privacy and Security

Juno places a strong emphasis on data privacy and security, ensuring that developers and users maintain control over their information.

- **Data Ownership**: With Juno, developers and users have full ownership of their data. Juno's architecture prevents unauthorized access and sharing.
- **Cryptographic Security**: Security is inherent in blockchain technology, providing a safe environment for decentralized applications.

3. Transparency

Juno operates with complete transparency, allowing developers to understand and trust the underlying mechanisms.

- **Open-Source Platform**: Juno's codebase is open-source, ensuring that developers can inspect and verify the system's operations.

4. Cost Efficiency

Juno offers a cost-effective alternative to traditional cloud providers, particularly as applications scale.

- **Predictable Costs**: Juno's pricing model is designed to be predictable, ensuring cost efficiency at every stage of development.

5. Innovation Facilitation

Juno supports rapid innovation by providing a flexible and comprehensive toolkit for developers.

- **Comprehensive Toolkit**: Juno offers a wide range of features including authentication, data and file storage, hosting, serverless functions, and on-chain analytics, all designed to integrate seamlessly.

- **First-Class Developer Experience**: Juno is built with developers in mind, providing intuitive tools, comprehensive documentation, and seamless integration to enhance productivity and reduce the learning curve.
- **Rapid Development**: Developers can build applications using familiar patterns and tools, speeding up the development process.
- **Future-Proof Technology**: Juno continuously evolves to incorporate the latest advancements in Web3 technology, ensuring that developers always have access to cutting-edge tools and features.

Conclusion

While Web2 cloud providers have been instrumental in the development of modern web applications, their inherent limitations pose significant challenges. Juno offers a compelling alternative by providing a decentralized, blockchainless platform that empowers developers to overcome those and build secure, scalable, and efficient applications with greater ease and control.

Use Cases

The following list provides an example of potential applications and benefits of using Juno in various scenarios:

1. Decentralized Applications (dApps)

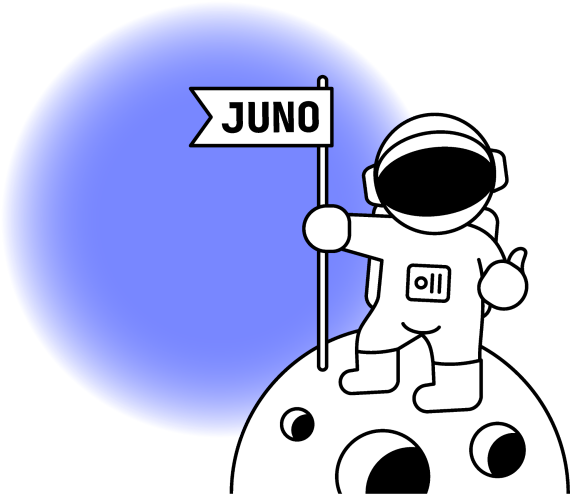
- **Rich Data Applications**: Building applications that handle complex data interactions securely and efficiently. Examples include collaboration tools, document management systems, and data-driven dashboards.
- **Rapid Prototyping**: Enable quick validation and iteration of ideas, facilitating the development of innovative Web3 applications with minimal setup and configuration.
- **Leveraging Crypto Payments**: Creating dApps that integrate cryptocurrency payments, enabling seamless, secure, and transparent financial transactions.

2. Content Management

- **Blogs, Documentation and Websites**: Hosting various types of web content that benefit from trustworthy and decentralized data storage.
- **Media Sharing Platforms**: Developing platforms for sharing images, and other media, ensuring content integrity and user ownership.

3. Supply Chain Management

- **Traceability**: Ensuring product traceability and authenticity with blockchain-based records.
- **Transparency**: Providing transparent supply chain information to consumers and stakeholders.



Roadmap and Future Plans

This section outlines Juno's development roadmap and future plans, providing insight into how the platform will evolve and improve over time. This chapter will help you understand the long-term vision and upcoming features that will enhance the experience and capabilities of the platform.

Ongoing Effort:

- **Ecosystem Growth**: Continuing to build a robust ecosystem around Juno by fostering a strong developer community, hosting events, and providing comprehensive resources and support. This is an ongoing effort.

H1 2025:

- **Payments SDK**: Allowing developers to integrate payment solutions seamlessly into their dApps using signer standards.
- **Developer Wallet**: Introducing a dedicated developer wallet, enabling developers to manage earnings, payments, and transactions securely and efficiently within the Juno ecosystem.
- **Third-Party Authentication**: Supporting integration with more third-party authentication providers.
- **Standalone Analytics:** Providing the existing analytics solution as a standalone product, offering comprehensive insights and performance on Web3 metrics for any developers or product owners.

H2 2025:

- **Secure Team Collaboration**: Introducing support for secure team collaboration, enabling multiple developers to work together efficiently and securely.
- **Enhanced Management Tools**: Offering advanced administration capabilities such as automatic top-up and batch upgrade of smart contracts.
- **GitHub and GitLab:** Automate deployment processes and integrate, including preview deployment, with deeper integration with GitHub and GitLab.

- **Subscription-Based Model:** Launching a subscription-based model to provide premium features and services, including secure team collaboration and enhanced management tools.
- **Regions Selection**: Allowing developers to choose a specific subnet for deploying new smart contracts, enabling projects to comply with regional regulations, and enhance data sovereignty by being located in areas such as Europe.

2026 and Long Term:

- **Marketplace for Developers**: Establishing a marketplace from developers to developers to design and offer their own smart contract solutions, templates, and plugins, allowing them to contribute to and profit from their work.
- **Enhanced Serverless Functions:** Developing additional capabilities for serverless functions to further empower developers in creating scalable and efficient applications, including support for writing these functions in JavaScript and TypeScript.
- **Cross-Chain Compatibility**: Developing cross-chain features to enable interoperability between different blockchain networks, allowing for more versatile and integrated applications.
- **Network Actor:** Becoming a key actor in decentralized networks to enhance the robustness of Juno's services and contribute to the overall infrastructure for the greater good. This includes becoming a node provider on the Internet Computer.

Juno is committed to continuous improvement and innovation, ensuring that developers have access to the best, most comprehensive tools and technologies for building decentralized applications.

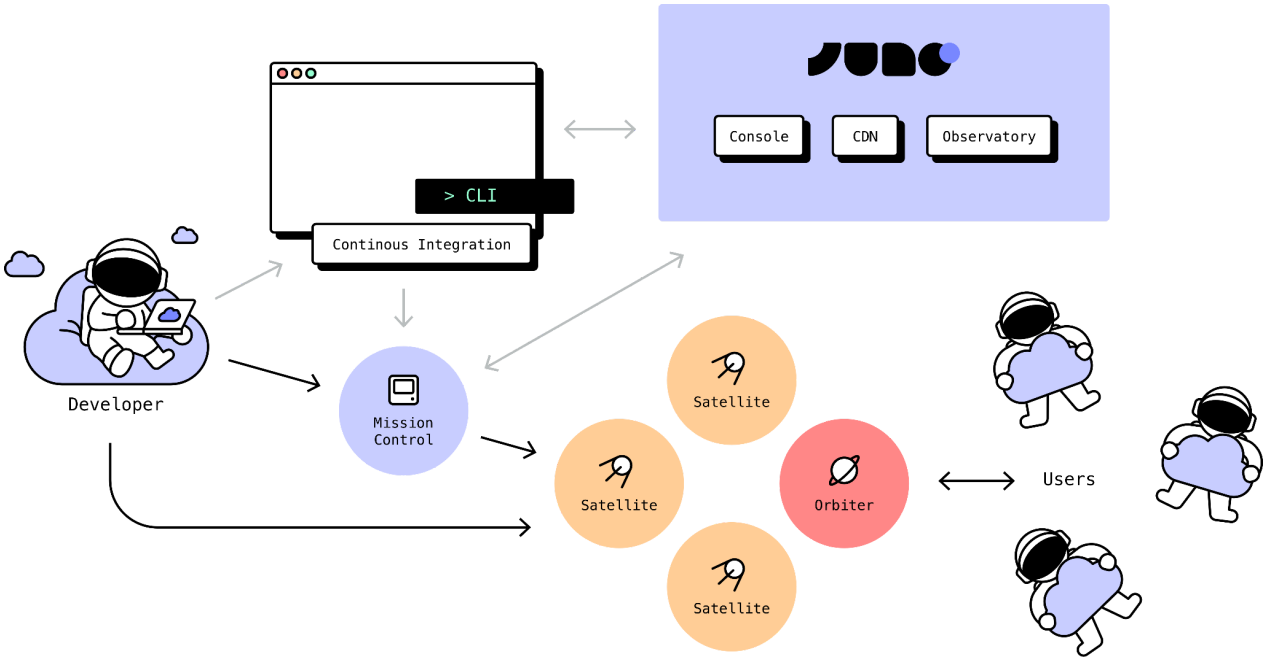
Released Features:

To date, and as a side note, these are the key features that have been successfully delivered, in addition to general maintenance and lifecycle improvements, showcasing a commitment to continuous progress:

- Analytics (Sept. 2023)
- Upgraded Satellites Memory (Oct. 2023)
- Enhanced Hosting Capabilities (Nov. 2023)
- Local Emulator for Developers (Jan. 2024)
- Blockchainless ("Serverless") Functions (Feb. 2024)
- Project Scaffolding Templates (Apr. 2024)

Technical Architecture

The architecture of Juno is designed to give developers complete control over their data and applications, ensuring a decentralized and secure development environment. It continuously evolves to meet the needs of developers and to incorporate the latest advancements.



Core Components

Console: The console is an admin interface for developers, providing a comprehensive suite of tools to manage and customize their projects. It maintains a list of Mission Control smart contracts and their associated anonymous user IDs. When a developer signs in, the console retrieves the developer's Mission Control and sends this information back to the developer's browser, allowing them to manage their Mission Control, satellites, and orbiters independently, with no control or intervention from Juno.

The console offers a full range of administrative features for managing smart contracts, including the ability to top up, start, stop, and delete projects, as well as create new projects. Developers can manage anonymous users associated with their projects and handle data management tasks such as creating collections and entries in the datastore or storage. Additionally, the console allows for customization by setting new custom domains for projects. Developers can also consult logs from serverless functions and set up monitoring to keep track of application performance and health.

This user-friendly interface ensures that developers have full control and flexibility over their projects, enhancing their ability to build and maintain decentralized applications efficiently.

Observatory: The observatory is a specialized smart contract that developers authorize to call specific information through their Mission Control, particularly regarding the current status of their smart contracts. In essence, the observatory acts as a watchdog, performing periodic checks to monitor and ensure the proper lifecycle management of the developers' smart contracts. While it currently only reads information, it might be extended in the future to perform additional tasks such as automatic top-up.

CDN: The CDN is a satellite that holds various libraries and assets used by Juno. It contains the metadata of WebAssembly (WASM) source files that developers use when upgrading their smart contracts. When a new version of any developer's smart contract is released, the updated version is published to the CDN. This ensures that releases are shipped end-to-end securely, providing a seamless and secure upgrade process for developers.

The Console, Observatory, and CDN are the smart contracts which aim to be controlled by a Juno DAO.

Developers Components

Mission Control: Each developer is assigned a unique smart contract known as Mission Control. This smart contract acts as a hub for managing all of a developer's smart contracts (projects and tools), as well as serving as a wallet. This ensures that developers maintain full control over their applications and funds, with Juno having no control, rights, or access to any of the developer's creations.

Satellites: Satellites serve as comprehensive entities that include memory, permission checks, and other Juno abstractions. Essentially, a satellite is a container for a developer's project or dApp, encompassing all necessary data, storage, application bundles, and assets. Each satellite operates independently and is dedicated to a single application, ensuring clear organization and management.

Orbiters: Orbiters are specialized smart contracts used for analytics, functioning as a decentralized alternative to services like Google Analytics. They collect and process data, providing developers with valuable insights into their applications' performance and usage patterns. Like satellites, orbiters are fully controlled by the developer.

Libraries, Tools and Templates

In addition to the smart contracts themselves, Juno also provides a variety of libraries, tools and templates. These are meant to be used within the developer workflow when developers start, maintain, and develop their projects. They are designed to provide the best state-of-the-art developer experience.

- **Javascript Libraries**:
  - **Core**: The core client library for interacting with satellites.
  - **Analytics**: A tracker for integrating analytics.
  - **Admin**: Tools for interfacing with admin features, enabling project management.
- **CLI**: A command-line interface for administrative purposes, allowing developers to manage their smart contracts and projects from the terminal.
- **Plugins**: Various plugins meant to ease the integration of Juno in frontend applications, specifically for ViteJS and NextJs.
- **GitHub Action**: Automation tools for interacting with and deploying via GitHub.
- **Docker Images**: Pre-configured Docker images for local dApp development and end-to-end (E2E) testing, providing a consistent development environment.
- **Plugins**: Various JS libraries
- **Templates**: To help new developers discover Juno or seasoned developers start new projects, Juno provides a set of templates for the most well-known frontend frameworks, namely NextJS, React, Vue, Svelte, Astro, and Angular.

Documentation and Communication

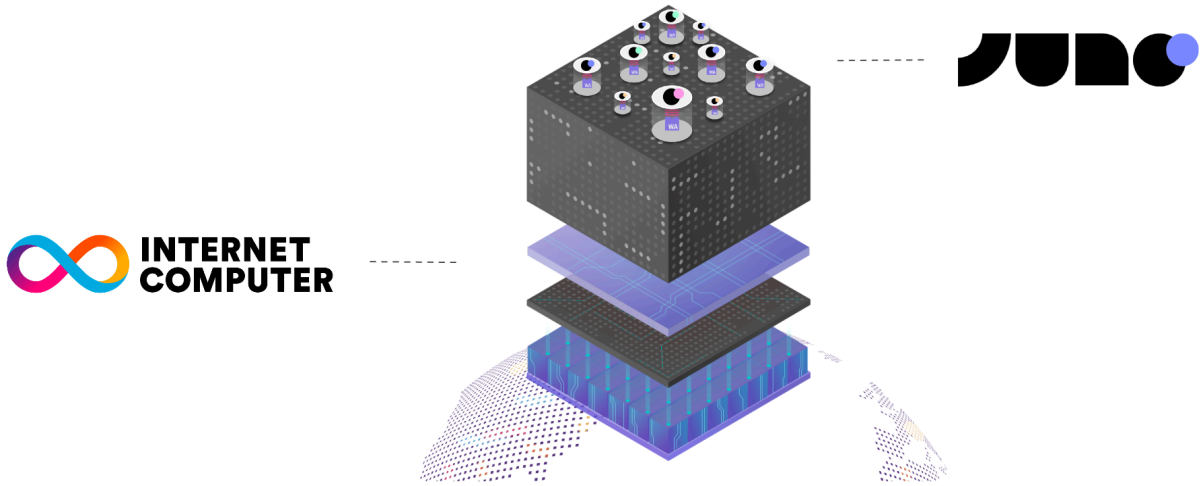
Juno maintains a website that serves as the landing page and documentation hub for developers. It offers comprehensive guides, tutorials, and resources to help developers get started with Juno, understand its features, and make the most of the platform. Additionally, the website plays a crucial role in communication and SEO, helping to attract new users, engage the community, and provide updates about the platform. This site is a key component for onboarding new users, supporting the developer community, and increasing Juno's visibility and reach.

The website will not be part of the DAO, as it requires frequent updates to reflect changes such as those in tooling and libraries, and because it is also used for communication, such as when new tutorials are published.

Infrastructure

Juno's infrastructure is designed to harness the full potential of Web3 technologies, creating a robust, secure, and scalable environment for developers to build decentralized applications.

Internet Computer



Juno operates on the Internet Computer (ICP or IC), a blockchain unlike any other.The Internet Computer is akin to adding a super-powered, self-running cloud to the regular internet. It enables the creation of various systems and services on a decentralized network using "canister software", which represents a more advanced version of smart contracts.

The IC comprises a set of protocols that facilitate independent data centers worldwide in coming together to offer a decentralized alternative to the current centralized internet cloud providers, often referred to as Big Tech. These independent entities operate specialized "node machines" to generate the same number of blocks as other machines within their network, ensuring uniformity through a Proof-of-Useful-Work mechanism. Their tasks involve replicating smart contract computations for optimal efficiency.

Thanks to its architecture, protocols, and cutting-edge cryptography, the Internet Computer stands out as the fastest blockchain, capable of directly delivering web content from smart contracts. This breakthrough enables 100% of online services to function on the blockchain, delivering complete decentralization and cost-effectiveness.

Multi-Blockchain

While the Internet Computer is our current backbone, Juno is not limited to using only the IC. Our infrastructure keeps doors open for future integration with other blockchains. This approach ensures that Juno can adapt and incorporate new technologies as they emerge, maintaining our commitment to decentralization and leveraging the best available blockchain solutions. Furthermore, Juno aims to enable communication across different chains, enhancing interoperability and expanding the possibilities for decentralized applications.

Web2 Services

While Juno aims to strictly use only Web3 providers and services, there are edge cases where technical or financial limitations necessitate the use of Web2 services. One example is the monitoring tool that sends emails to developers using Google Firebase Functions if their smart contracts are running out of resources. Another example is the usage of the services of the Boundary Nodes, which allow developers to register custom domains for their projects. These types of services are never enforced and are always subject to developers opting-in.

Open Source

Juno is open source. The entire codebase is available on GitHub, and the repositories can be accessed via the following links:

- *https://github.com/junobuild/juno*
- *https://github.com/junobuild/juno-js*
- *https://github.com/junobuild/plugins*
- *https://github.com/junobuild/create-juno*
- *https://github.com/junobuild/cli*
- *https://github.com/junobuild/juno-docker*
- *https://github.com/junobuild/juno-action*
- *https://github.com/junobuild/cdn*
- *https://github.com/junobuild/cron*
- *https://github.com/junobuild/workshop*
- *https://github.com/junobuild/brand*
- *https://github.com/junobuild/hacks*
- *https://github.com/junobuild/docs*

License

Juno is released under the GNU Affero General Public License Version 3 (AGPLv3) or any later version. In addition, its source code shall not be used to create any similar Blockchain-as-a-Service offerings.

The libraries, CLI and other tools around the core features are released under MIT License.

Audit Considerations

It is important to note that the codebase has not yet been audited. Currently, I see an audit as a complication and an investment that may not be fully justified given the current amount of funds held across the ecosystem. However, in the future, particularly after the development of the Mission Control wallet is complete (see chapter “Roadmap”), an audit will become valuable. At that point, it will be up to the DAO to support such an investment.

Business Model

Juno's business model is designed to provide value to developers while ensuring the sustainability and growth of the platform.

Current Model

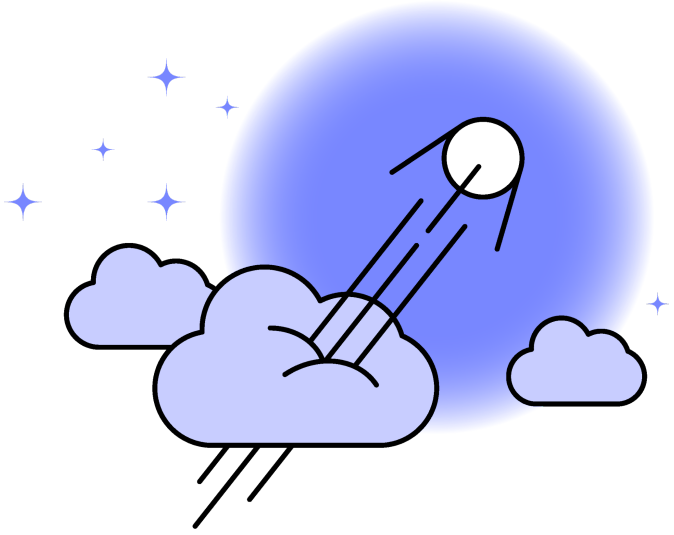
- **Freemium**: Juno operates on a freemium model, offering core features for free to help developers get started quickly and easily. Each new developer sign-up leads to two smart contracts they fully own: one for their wallet and one for their project or dApp.
- **Transaction-Based Fees**: Developers pay transaction fees for specific actions, such as spinning up additional new smart contracts.

Future Plans

- **Subscription-Based Model**: To cater to the needs of more advanced users, Juno plans to introduce a pro plan which will offer enhanced functionality, including team collaboration and enhanced management tools.
- **Payment Transaction Fees**: A transaction fee might be introduced as part of the Payments SDK. This approach would enable the platform to generate revenue by charging a small fee on each transaction processed through its payment solutions.

In addition to the above costs, it is worth noting that developers are responsible for the operating costs associated with their smart contracts and projects. This ensures they have control over their expenses based on their specific usage and needs.

In shorter terms, Juno is a PaaS (Platform as a Service, derived from SaaS, Software as a Service), and its business model is akin to similar platforms in the cloud industry.



Competitors

While Juno's blockchain-as-a-service approach offers a unique solution for developers, it is helpful to compare it with potential competitors across Web2 cloud providers and Web3 platforms. Here is a summary of the strengths and limitations of these key players.

- Web2: Established Platforms (Firebase, Supabase, AppWrite, Vercel, Netlify, Heroku, DigitalOcean, AWS Amplify)
  - Advantages:
    - **Established**: Well-established platforms with extensive support and resources.
    - **Market Share**: Large share of the market with many developers already using these services.
    - **Features**: Comprehensive set of features for development, deployment, and maintenance.
    - **Scale**: Proven scalability to handle large workloads efficiently.
  - Disadvantages:
    - **Stuck in the Web2 Paradigm**: Reliance on centralized infrastructure, lacking the decentralization and security features of Web3 solutions.

- Web2: Newcomers (Render, Flightcontrol, SST)
  - Advantages:
    - **Features**: Address market demand for alternatives to established Web2 cloud providers.
    - **Scale:** Well-funded and positioned to rapidly gain market share.
    - **Trendy**: The “cool kids on the block”.
  - Disadvantages:
    - **Stuck in the Web2 Paradigm**: Share the same disadvantages as established Web2 providers, including reliance on centralized infrastructure and lack of decentralization and security features inherent in Web3 solutions.

- Web3: API Platforms (Alchemy, Moralis, thridweb)
  - Advantages:
    - **Established**: Strong presence in the Web3 space with robust ecosystems.
    - **Market Share**: Large share of the market with many developers already using these services.
    - **Cross-Chain Capabilities**: Support for multiple blockchain networks, enhancing interoperability.
  - Disadvantages:
    - **Focused on Wallets and Transactions**: Primarily centered around wallet management and transactions.
    - **Gas Fees**: Transaction costs can be high, impacting the overall cost-efficiency.
    - **Not Fully Open Source**: Some components may not be open source, limiting transparency.

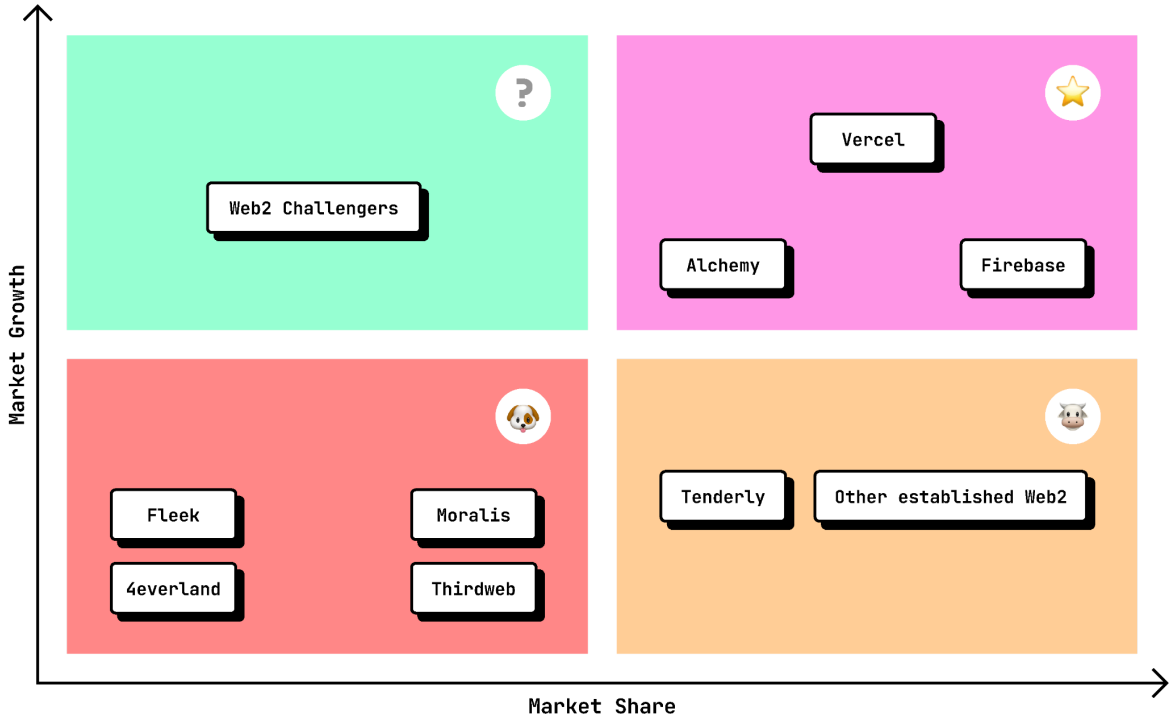
        - **No DAOs**: Lack of decentralized autonomous organization and governance for their users.
        - **Off-Chain Frontend**: Often rely on off-chain solutions for frontend development.

- Web3: Hosting Platforms (Fleek, 4everland)
    - Advantages:
        - **Established**: Reliable hosting platforms with a focus on Web3 applications.
        - **Cross-Chain Capabilities**: Support for multiple blockchain networks, enhancing interoperability.
    - Disadvantages:
        - **Web2 Auth and DB**: Uses traditional Web2 authentication and database solutions.
        - **No DAOs**: Lack of decentralized autonomous organization and governance for their users.
        - **Not Fully Open Source**: Some components may not be open source, limiting transparency.

- Web3: Developer Platforms (Tenderly, OpenZepplin)
    - Advantages:
        - **Adopted Tooling**: These platforms provide a good developer experience, adopted by many and fulfilling their needs.
        - **Infrastructure**: They deliver various tools (Testnets, debuggers, alerting) required for node and smart contract development at scale.
        - **Cross-Chain Capabilities**: Support for multiple blockchain networks, enhancing interoperability.
    - Disadvantages:
        - **Other paradigm**: While both address “Web3 development,” Juno distinguishes itself by focusing on dApp development and could potentially offer bridges.
        - **Ease of onboarding**: Web2 developers, particularly those familiar with JavaScript, are more likely to onboard quickly on Juno.
        - **No DAOs**: Lack of decentralized autonomous organization and governance for their users.

Potential Market Structure

To provide a visual comparison, here is a BCG matrix highlighting the potential market share and market growth rate of those various Web2 and Web3 platforms based on my personal interpretation. This representation may be subjective and potentially incorrect, but it reflects how I perceive the market dynamics.



Costs Challenges

While Juno's architecture and business model have been, to some extension, validated, it is important to acknowledge two cost-related challenges:

- **Cost of Acquisition**: The current cost of acquisition is relatively high, given that two smart contracts are spun up for each new developer.

- **Resource Management**: By automatically creating two smart contracts for new developers, the platform can be prone to attacks. To mitigate this, Juno uses a conservative approach by always having a limited amount of resources available for new developers, ensuring the resources remain under control. Similarly, there is a potential for developers with bad intentions to create new smart contracts and then move them to operate independently outside the platform straight from the start. If this becomes a concern, user experience improvements can be implemented to encourage greater commitment, helping to mitigate this risk.

Validation and Metrics

I open sourced Juno's code on Valentine's Day 2023. After an invitation-based trial phase, it was officially launched to the public on April 20th, 2023. Over the last few months, there have been around 100 new Mission Controls created on a monthly basis, totaling 1,200 by the end of June 2024. In other words, we are assuming 100 new potential developers a month.

Due to its anonymity model and the current lack of specific metrics implementation, it is challenging to evaluate the conversion rate of developers who effectively develop and launch projects. However, a voluntary showcase is available on the website, and as detailed in the business model, additional satellites and analytics require a one-time transaction. By mid-July 2024, 169 of these paid smart contracts had been executed (see Juno's Console account address for reference). This, to some extension, validates both the demand for such services and the acceptance of a one-time fee model.

The Juno website itself uses Juno Analytics. On average this year, there have been over 4,000 monthly page views, 3,000+ unique page views, and 1,500+ unique sessions.

References:

- *https://dashboard.internetcomputer.org/account/c14e9bca510951c86411c19e8078cc6dfb795efab1b01db3c8825b07eb3fd861*

Target Audience

Juno is primarily designed for web developers. Whether those are individual programmers, small teams, or startups, the platform caters to those looking to transition from traditional Web2 development to the decentralized world of Web3 as well as those already familiar with Web3, regardless of their preferred blockchain.

Juno is ideal for developers aiming to build fully decentralized projects or decentralize parts of their current applications. Moreover, it is an excellent tool for those looking to bootstrap or develop a prototype rapidly.

While Juno does not currently target professionals within larger organizations directly, this can be envisioned for the future as Juno aims to support developers, any developers.

Market Size

It does not make sense for me to list arbitrary billion-dollar market size figures in this white paper for the sake of selling a huge market. By targeting any developers interested in Web3, the market is de facto broad. Moreover, the rise of Web2 cloud providers in recent years validates the fact that the majority of developers and companies are not interested in running their own servers in their basements.

However, it would be naive to consider all developers as potentially interested in Web3. There are web developers who are against anything Web3, considering it a crypto scam. Additionally, industry trends change over time; while Web3 was predominant in previous years, AI has definitely picked up the wave nowadays. Similarly, not all Web3/crypto-native developers are easy targets. Some do not value Juno's principles of decentralization and ownership as much as the opportunity to make money, which is a valid perspective but worth noting. This does not mean these developers are not potential users of Juno, but they may be more difficult to attract. Nevertheless, the market remains vast and full of opportunities.

Contributors

I developed and bootstrapped Juno. A few tasks, such as the design of the UI and logo, were outsourced to freelancers within my network.

I have been a freelance web developer since 2018. I hold an engineering degree in Computer Science and an Executive Master of Business Administration (EMBA). In addition to development, I have also served as a project manager and business analyst . Notably, I was previously the Vice Director at the leading company providing ERP solutions for the Swiss company registry.

In the future, I am committed to remaining the principal contributor to Juno, ensuring its continuous development and improvement.

In addition, as the DAO grows, the team will expand to include additional developers to achieve the ambitious goals outlined in the roadmap, as well as a developer evangelist to foster further growth and engagement.

That said, I am going to commit to the project only if the DAO succeeds. If it doesn't, Juno will enter maintenance mode, where I will stop developing new features and ultimately deprecate it.

I've been developing Juno as a side project for some time now and I feel like I've reached a crossroads where it either becomes a true initiative developed by a group of contributors, or I just find a new hobby. In addition, unlike building with Juno, developing Web3 without it requires significant energy. Therefore, sunsetting it would likely also mean that I might take a break from developing any personal projects for some time.

In short, to me, it's either Juno DAO or no Juno.

Links:

- *https://daviddalbusco.com*
- *https://x.com/daviddalbusco*
- *https://github.com/peterpeterparker*

Tokenomics

Juno will launch a standard ICRC token, known as Juno Build token (JUNOBUILD), at the creation of the DAO through a Service Nervous System (SNS).

Purpose of the Token

The Juno Build token will serve three purposes: governance, utility, and rewards.

Governance

The governance token empowers developers and stakeholders to gain voting power by staking Juno Build tokens, which is a pivotal and central aspect of this project. As Juno operates as a blockchainless provider, it grants developers full control over their projects. This means that shipping new releases and providing services requires not only absolute trust but also complete transparency, the essence of Web3. Therefore, it is essential, in my opinion, that Juno becomes a DAO to ensure that what is built and delivered is validated by the community, developers and stakeholders, which is crucial for maintaining the trust, ensuring security, and quality.

Utility Token

The Juno Build token will have multiple utilities within the ecosystem. These utilities will benefit both Juno and the developers:

For Juno:

1. **Transactions and Subscriptions:** The token can be used for payment of transactions and subscriptions for features provided by Juno, benefiting from a better price compared to transactions executed with other tokens.
2. **Swapping for Computation Power:** The token can be swapped to acquire computation power, effectively converting it to cycles or other infrastructure fees.

For Developers:

3. **Integrated Payments:** Developers will be able to integrate payment features into their projects and dApps, linked with their wallets on Juno (Mission Control). This allows developers to manage a single wallet that earns revenue.
4. **Clients Transactions:** Similar to payments, developers will also be able to earn for commissioned work or maintenance. For example, if a developer builds a dApp for a client, they can earn payments directly to their wallet on Juno.
5. **Marketplace Transactions:** The future marketplace for developers will enable them to offer features and services to others. These transactions will be conducted using the Juno Build token.

Rewards

The Juno Build token will act as a reward mechanism. Those who hold staked tokens will be eligible to receive tokens as rewards on a regular basis.

Outgoings

The DAO will have various financial outflows for covering Juno's smart contract costs (such as running cycles and onboarding new developers), potential third-party services usage, audit, core team and operational expenses through grant programs. Additionally, JUNOBUILD token may be employed to reward contributions through bounties.

We can expect those outgoings to be allocated as following:

1. Developers (60%): This portion will be dedicated to compensating the core developers and the developer evangelist ensuring achieving the goal of the roadmap while fostering growth as well.

2. Marketing and Design (15%): It will be allocated to engage consultants for various roles and tasks regarding marketing and design.

3. Marketing and Community Building (5%): A modest portion of costs will support ongoing marketing efforts. This includes events aimed at attracting more developers and users to the platform. The relatively low allocation reflects a preference for genuine engagement over traditional advertising.

4. Operational Costs (20%): This allocation will cover essential operational expenses, such as legal, accounting, and administrative costs.

While it is challenging to predict when the DAO will incur more incomings than outgoings, we ideally aim to achieve a break-even point within three years. Initially, the DAO will incur more outgoings than incomings.

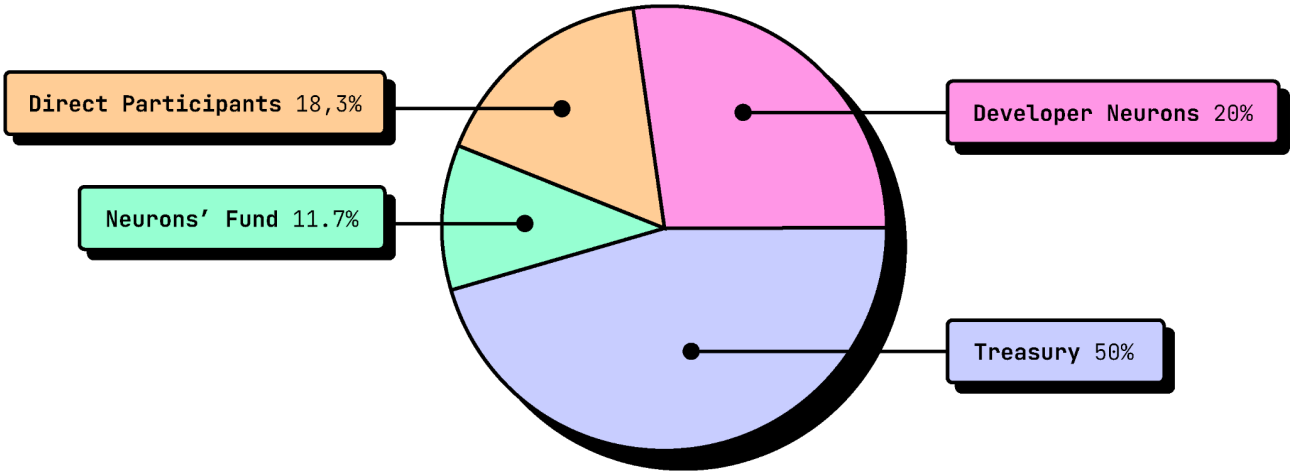
Total Supply

The total supply of JUNOBUILD tokens at genesis is 100 millions. Over time, the supply will increase if more tokens are minted and decrease if tokens are burned.

The SNS is designed to generate 1.5% of the total supply annually to distribute voting rewards to participating neurons.

Token Distribution

The JUNOBUILD tokens will be allocated at Genesis as following:



SNS Swap

To promote decentralized governance and secure funding for the SNS, 30% of the total JUNOBUILD supply will be allocated for a swap. Participants in this SNS Swap, including the Neuron Fund, will receive their tokens as part of a diversified portfolio. This portfolio comprises five equal-value neurons, each with staggered dissolve delays of 0, 6, 12, 18, and 24 months, respectively. This structured approach ensures a balanced distribution and fosters long-term commitment among participants.

Treasury

Following the successful completion of the SNS swap, the Juno Build SNS-DAO treasury will hold an estimated 500 million JUNOBUILD tokens alongside the ICP accumulated during the swap.

The deployment of any funds in the treasury will be strictly governed by DAO-approved proposals.

Subsequent to the SNS swap, the Juno contributors core team plans to propose the allocation of approximately 2% of the JUNOBUILD tokens and corresponding ICP tokens from the treasury to the DEXs, initiating the trading of the JUNOBUILD token.

Team

I will receive tokens in the form of a basket of five equal-value neurons. These neurons will have different dissolve delays and vesting periods of one year or more.

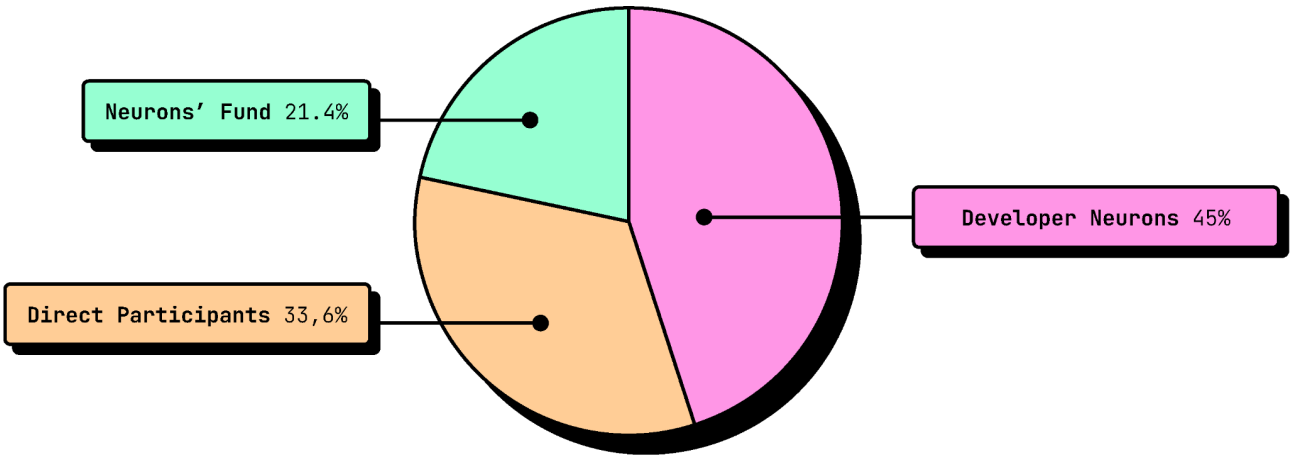
Neurons with a “vesting period” remain untouchable until the designated period concludes, and no alteration can be made to the dissolve delay.

Index (Memo)	Stake	Dissolve Delay	Vesting Period
0	**4,000,000**	**6 months**	**1 year**
1	**4,000,000**	**9 months**	**1,5 years**
2	**4,000,000**	**1 year**	**2 years**
3	**4,000,000**	**1,5 years**	**3 years**
4	**4,000,000**	**2 years**	**5 years**

Voting Power

To participate in the governance of the Juno Build DAO, a neuron will have to possess a minimum dissolve delay of 6 months to be eligible to vote. This duration aligns with the roadmap shared in this white paper and could be reviewed in the future.

The SNS voting power distribution at genesis will have the following proportions for direct participants, the Neurons' Fund, and developer neurons:



Notes:

- *The percentages presented in this and the previous chapter were calculated using the SNS Tokenomics Analyzer (https://dashboard.internetcomputer.org/sns/tokenomics) on August 29, 2024.*

Initial SNS Configuration

The SNS will initially be configured with the values shown in the tables below which can all subsequently be changed by proposal.

Transaction fee in JUNOBUILD tokens paid for ledger transfers	**0.01**
Number of JUNOBUILD tokens that rejected proposals cost the proposer	**100**
Minimum number of JUNOBUILD tokens that can be staked in a neuron	**100**
Initial voting period for a proposal	**3 days**
Minimum neuron dissolve delay to vote	**6 months**
Maximum neuron dissolve delay	**3 years**
Maximum dissolve delay bonus	**75%**
Maximum age for age bonus	**3 years**
Maximum age bonus	**25%**
Percentage of total supply that will be generated annually for rewards	**1.5%**

SNS Swap Configuration

The SNS swap will be configured with the values shown below.

Total number of JUNOBUILD tokens to be sold in the SNS Swap	**30,000,000**
Minimum ICP to be raised (otherwise sale fails and ICP returned)	**200,000**
Maximum ICP to be raised	**350,000**
Estimated ICP to come from the Neuron Fund at a 5.80 XDR conversion rate	**Min: 127,526** **Max: 129,310**
End date of sale (unless maximum ICP raised sooner)	**To be defined**
Minimum number of sale participants (otherwise sale fails and ICP returned)	**100**
Minimum ICP per buyer	**10**
Maximum ICP per buyer	**200,000**

Legal Umbrella

To ensure Juno Build will operate within a legally sound framework, the DAO will be incorporated in the Marshall Islands. This jurisdiction offers an advanced legal environment specifically tailored to the needs of DAOs. Incorporating in the Marshall Islands will allow Juno Build to obtain corporate personhood, enabling the execution of business operations, signing of contracts and other off-chain activities.

This incorporation model will be strategically chosen to mitigate liability risks for projects and their investors. Under this structure, Juno Build DAO will be recognized as a DAO LLC, providing a legal buffer that will protect against personal liability. Importantly, this setup will support operational flexibility, recognizing blockchain operations and smart contract governance as legitimate under its laws.

Additionally, the Marshall Islands' legal framework will permit members holding less than a 25% share to maintain anonymity, eliminating the need for KYC procedures for these participants. This feature, combined with the legal recognition of smart contracts and DAO tokenomics, will provide Juno Build with the necessary legal infrastructure to support its innovative approach to product development, while maintaining legal compliance and operational efficiency.

Conclusion

While I may be biased, I genuinely believe that Juno represents a significant step forward in the realm of decentralized development. I'm well aware that it does not yet cover all the features provided by Web2 services or the capabilities of standard Web3 solutions, but Juno's features and unique selling proposition are undeniably promising. Despite not having reached a significant market share yet, and with future scalability uncertain, Juno's potential is evident to me.

As for establishing a DAO, this step is crucial for continuing the journey. It would be paradoxical to promote full control for developers while keeping ownership of the ecosystem centralized. The DAO will ensure that Juno's growth, security, and transparency are maintained through community-driven governance.

I hope you enjoyed the read!

Live long and prosper,
David

Links:

- *https://juno.build*
- *https://x.com/junobuild*
- *https://github.com/junobuild/juno*