Decentralization Blueprint

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Main Authors

The Main Authors wrote the bulk of the document and decided which feedback to accept, modify, or reject.

- Grace Rachmany, Supervisory Council
- Daniel Ospina (RnDAO), Supervisory Council
- Elizabeth Cusma, Task Force
- Esther Galfalvi, SingularityNET Foundation

Contributors

The Contributors added invaluable insight, suggestions, and alternative viewpoints that significantly contributed to the quality and depth of this document.

- Vanessa Cardui, Ambassador Program
- Peter Elfrink, Foundation, Ambassador Program
- Tommy Frey, Ambassador Program
- Lori Guidos
- Jan Horlings, SingularityNET Foundation
- Marta Lenartowicz, Nunet
- Guillermo Lucero, Ambassador Program
- Colleen Pridemore, Ambassador Program
- Nick Almond, Task Force
- Tevo Saks, Ambassador Program
- Nicola Salvagni
- Felix Weber, Ambassador Program
- Stephen Whitenstall, Ambassador Program
- Judith Williams, Ambassador Program, Deep Funding

Prologue

When we said this would be a living document, we didn't consider how much "aliveness" we would encounter as we created it. During our 7-month term as an elected council, we faced many of the difficulties inherent in the decentralization process and in the primitive state of DAO technology today.

From our first meeting, where we realized that we had no idea why the voters had voted for us all the way through the completion of the document and the lack of a process or procedure for handoff and continuity of the work that has begun.

In addition to many of the more technical challenges, we were faced with a major vote in the SingluarityNET community in which we publicly disagreed with the Foundation's position.

The tension and heightened communication at that time represented for us a key turning point in making visible many of the underlying concerns about decentralization and how power actually plays out when it comes to major decisions.

It's fairly easy to decentralize decision-making about how to use discretionary funds, or about the writing of a non-binding Blueprint proposal. But when it comes to major strategy decisions, community involvement is not always welcome. This document proposes steps that can be taken to address this reluctance, specifically the implementation of something like a citizen's assembly to co-create strategy going forward for SingularityNET.

In some way, the big question of decentralization is "how much do you like democracy when the public disagrees with you". Globally, we are seeing "democratic" governments pass legislation that has almost no support from the populace. In corporate governance and the oligarchical structures of most DAOs, we are seeing the same kind of push forward by a small group of founders of the organizations.

The best forms of collective intelligence and democracy are able to handle dissent constructively. We didn't go deeply into this topic in the Blueprint, as it didn't specifically fit anywhere. It's definitely a topic for deeper discussion. Within the SingularityNET ecosystem, the Ambassador Program is exemplary in how they handle differences of opinion and minority dissent. For ourselves as the dissenters in the abovementioned vote, we wonder how we will be regarding vis-a-vis any future positions within the ecosystem. The most robust organizations have a specific place for encouraging "worst case scenario" and "devil's advocate" thinking as a key part of decision-making. Court systems require explicit write-ups for minority opinions which can also be used as precedents in some cases. Without such minority positions, organizations can fall victim to groupthink. We are not sure that there is enough room for dissent within the SingularityNET ecosystem, particularly when it comes to the potential dangers in the development of AGI versus the huge financial incentives to push ahead.

It is our position as the Supervisory Council that governance decentralization is absolutely key to the development of beneficial AGI. Without a strong ethics and safety orientation, SingularityNET is competing under the same "move fast and break things" mentality of Silicon Valley. We do not believe that open source coding or the decentralization of the blockchain are any kind of substitute for wide scale inclusion of the people who will be affected by AGI in the future--that is, all of humanity. Nobody is asking even the most obvious of questions about what "Beneficial" means when it comes to AGI (nor beneficial for whom). SingularityNET continues to stream increasing amounts of funding towards development and infrastructure, and almost nothing towards ethics and safety. It is our hope that this Blueprint will give the organization pause to think about the best way forward for the sake of all of humanity.

We believe that this document represents groundbreaking work in the area of DAOs and has the potential to serve the entire Web3 industry, as well as anyone who is looking for

implementation directions for community governance of any type of technological development.

Introduction

The funding and creation of this Blueprint for Decentralization is part of a process for the progressive decentralization of SingularityNET, with the purpose of building the right context for Beneficial AGI to emerge.

SingularityNET in its current state demonstrates pockets of decentralization practices, but senses a deep urgency to fully decentralize the control of its core systems in time for the emergence of AGI.

The goal of this document is to build a 'Blueprint' of areas of work and activities that can be taken by SingularityNET to enhance the state of decentralization across the network and build the necessary processes and capacity within the network so that it is successfully achieved.

The underlying rationale for decentralization is the need to create a fair, ethical, and safe way to govern decisions having to do with the management of Beneficial AGI. The release of AI by centralized corporations has been a mixed bag for humanity and the planet. It is the intention of this document to investigate the ways in which decentralized governance can be implemented for better decision-making when it comes to Artificial General Intelligence.

The result is a document that can be applied to any Decentralized Autonomous Organization (DAO), any community-governed commons, or to any technology. For groups that are looking for avenues towards more democratic governance, this Blueprint provides ideas and frameworks that are applicable to many situations.

A "systems thinking" approach has been taken to structure this Blueprint document. Inspired by Stafford Beer's Viable Systems Model and Daniel Ospina's work on The Six Interactions, the document is divided in sections for Identity, Future, Change, Accountability, Coordination, Operations and Support - all core "systems" within the network, ensuring its viability. Each system (i.e. each section) interrelates to all other systems. For example, the identity of the organization (its ethical framework, its values, mission and purpose) will shape how all the other systems work and vice versa.

The blueprint can be used in an on-going fashion to interrogate the state of decentralization of the network, what has been tried before (so that work is not repeated), and signposts towards practices and tooling that can be utilized by the network to achieve its decentralization goals.

Importantly, we see effective decentralization as being capture resistant and operationally effective. That is, effective at creating and developing an organization that can satisfy the multiple needs of the stakeholders and generate positive externalities for society at large,

without enabling a single group to draw outsized profit at the expense of others. This necessarily opposes the messianic notion that “the end justifies any means”.

Decentralization work of this kind at the frontier of emerging technology and AI is a venture into the unknown. Though the open source community has weathered many collaboration challenges, there are no tried and tested patterns for this activity and consequently the document takes the approach of suggesting potential approaches, alongside potential practical experiments that can be seeded by SingularityNET’s Deep Funding function and potential other mechanisms that may arise in the future.

The network believes that Beneficial AGI is necessarily decentralized and will therefore be deeply informed and ultimately shaped in both its function and operation by a deep connection to an aligned community. Blueprint aims to provide a network level approach to decentralization that can move commensurately with the pace and development of AGI. It offers a number of economic levers that can allow the network to accelerate the decentralization process to ensure that this work is completed in time for the emergence of AGI.

For the purpose of this Decentralization Blueprint, the question arises as to what exactly it is we are decentralizing in terms of functionality.

Two generalized questions are implicit in our work

1. What does it look like to have a technology commons governed by a community or DAO?
2. How does community governance ensure “benevolence” or ethical development of technology?

How to use this document

The Blueprint is a map of the organization; it provides the landscape and a view of the current state of the system. This "map" provides an overview to then devise and launch different decentralization experiments to evolve parts of the system. The decentralization experiments are meant to be projects where a specific section or subsection of the Blueprint is explored more deeply, improvements proposed and tested, and then learnings consolidated back into the Blueprint. As such, as different decentralization experiments take place in cycles, the Blueprint should evolve to reflect the new situation.

Importantly, each section’s content should not be taken as absolute truth, but rather as preliminary findings that can be refined if an area is prioritized for a decentralization experiment. We provide multiple ideas for such experiments but before selecting any solution, it’s essential to deeply understand the current situation and challenges.

The way to use the blueprint is to enable community members to shortlist the areas that are ripe for change (for example using an Eisenhower matrix of ‘important’ and ‘urgent’). Out of those areas prioritized, 2-3 can be selected and turned into RFPs for change.

The RFPs would then enable teams to compete as groups that will facilitate a research and change process in the specific area.

It's recommended that said teams and the respective change processes follow an iterative and learning-oriented approach. For example using System Design Thinking Methodology to involve the community in understanding the problem, brainstorming solutions, prototyping, and then refining and iterating as needed.

Decentralization definition

For the purpose of the Supervisory Council, the working definition of decentralization is to increase the number of people involved in decision-making, while ensuring decision-making is effective. In the case of SingularityNET, that means more people from the community and incremental release of decision-making powers from the Foundation to community members.

Overarching measures of decentralization

As an overall measure of decentralization, the SingularityNET community strives for Capture Resistance (i.e. resistance to capture by interest groups at the expense of others) through a variety of contextually-useful (although not necessarily sufficient) measures:

- Community representation and participation in governance: greater numbers of people involved in the self-governance of the SingularityNET network. "Ensure that the rules are announced, published and communicated and that those affected by the rules can participate in modifying the rules."
- Participatory budgeting: Increasing percentages of the overall budget to be controlled and allocated by the community. This includes the release of the wallet management to the community functions as stipulated in the white paper.
- Decentralized development: Increasing amounts of the development that is currently exclusively done by the Foundation become part of the grants and funding programs. That is, there is no clear boundary between the functions of the Foundation and the functions of the community.
- Nested autonomy: The entities within SingularityNET have clear boundaries and can operate autonomously, without requiring permissions or budgeting from a centralized entity.
- Purpose over profit: The organization as a whole provides outcomes that are aligned with its fundamental purpose of supporting the development of Beneficial Artificial General Intelligence toward serving humanity and is beneficial towards all its stakeholders.
- Fluid movement of people between different parts of the organization.

The long-term goal of decentralization would be to have all of the operational functions of the Foundation be managed through self-governing processes.

Balancing Decentralization with Viability

Naturally, decentralization will be in tension with other aims, like financial viability or speed of execution. It is an organization's ability to hold productive tension (and invent win-win solutions that resolve paradoxes) which ultimately defines its greatness or lack thereof. When a paradox fails to be resolved, it's the Identity function that serves as the ultimate tie breaker to define what's right, by inquiring deeply about the best way to serve the Why and Values.

Definitions

SingularityNET

Refers to what's controlled by the foundation and its decentralization initiatives. Does not include "the spinoffs".

The Ecosystem

Used colloquially to refer to SingularityNET, see above definition.

The Spinoffs

Include Hypercycle, Twin Protocol, SingularityDAO, Nunet, TrueAGI, Cogito, Sophiaverse, Rejuve.AI, Rejuve.Bio, Mindplex, Jam Galaxy, Awakening Health, Yaya Labs, and Zarqa. The Spinoffs are not included in the Blueprint, which others may include as part of the ecosystem, but for purposes of this document are not included, mainly due to scope, time, and resources.

The Community

Refers to those interacting with SingularityNET (users, contributors, token holders, and others directly impacted). Generally we see a continuum between core members (hold tokens, participate in governance, contribute, use the products/platforms, invite others, etc.) and audience (passively consume some content). This concept thus takes into account multiple stakeholder groups that might overlap more or less, and sees SingularityNET as responsive to the needs of the multiple groups.

Sections

The core systems of the network required to make an organization functional. See Introduction for further detail.

Identity

The Why (akin to mission and purpose)

Instead of the naive idealism of many mission and purpose statements, the Guiding Why frames both the Who and the Why of an organization in order to ensure the organization is operating in alignment with its values. The Why function specifically identifies what your stakeholders need and how your organization addresses them.

Artifacts

- Mission statement
- Purpose statement
- Why statement
- Ambassadors' Gitbook
- Ambassadors section on main website

Current setup

SingularityNET has not decentralized to the point that there is a formal ratification process in place for defining the mission or purpose, or an ecosystem-wide adopted Why.

Foundation

The stated mission of SingularityNET is to foster the development of Beneficial AGI. This mission was created at the founding of the organization and is upheld by the SingularityNET Foundation.

Ambassador program

The mission and purpose of the Ambassador program is to grow the community and market SingularityNET's work to create beneficial AGI as well as build, maintain and grow a fully functioning program that allows SingularityNET community members to contribute to their mission by completing tasks and get rewarded and recognized for their contributions

Deep Funding

The mission and purpose of Deep Funding is to fund development and deployment of AI tools on the Platform and projects that give AGI more general skills.

What's been tried before

- A mission statement was developed at the inception of the company and adopted by the Foundation.

- The Supervisory Committee was elected and mandated to create this blueprint to evaluate domains such as this.
- Meetings with SingularityNET ecosystem representatives and the Supervisory Council were conducted and the purpose statement was opened for a period of time for comment by the community to determine if there was mission and purpose alignment in the SingularityNET ecosystem. Many people feel aligned with the mission, while others don't and instead are concerned with governance or distributed decision-making for funding projects.
- Reference document on purpose

Challenges

- There is no framework for collective decision making of SingularityNET's Why.
- Unclear that the community, as a whole, aligns with the Foundation's current Purpose/Why.
- No processes or timelines are in place for creating processes that are aligned with the Why, nor are there yet objective measures to allow the community to know how they are progressing towards the Why.
- No processes or timelines are in place for periodic review of the Why, progress towards the Why, or signals to determine whether the external or internal conditions dictate a re-assessment of the Why.
- Advantage in terms of decentralization: High level of autonomy of individuals and groups to determine their own purposes.
- Due to the token merger with Ocean Protocol and Fetch.ai, members of the community have expressed concern that the new token holders may have different agendas. The Supervisory Council has expressed concern about the centralization of power, which the writers of this paper feel is a threat to "beneficial", safe and ethical technological development.

Decentralization measures or outcomes

- The Guiding Why would be collectively decided with community input and through a binding vote.
- It would be reevaluated regularly with SingularityNET representative input and authority.
- Community actions align with the Why statement determined.
- Decisions about changing the Why statement include larger numbers of participants and the process is clear and transparently documented.
- Individuals who decide to pursue another Why are actively allowed to set up parallel organizations.
- The Why considers the needs of multiple stakeholders as opposed to a single messianic "purpose".

Ideas for SingularityNET

Why statements should be fairly stable, and the most common “decentralization” methodology for people who are no longer aligned is that they move into another organization with which they are aligned. Having said that, there is a place for a collective review of why statements.

- Annual review of purpose and mission, or the guiding why; preferable in person or at least synchronous with asynchronous and remote participation enabled.
- Implementation of minimum deliberation and review times for public comment on documents that relate to important changes to this function.
- Surveys and polling of the community for alignment with the why statement.
- Creation of shared measures for accomplishment of the why statement through decentralized processes, elected councils, deliberation, etc.
- Tools such as Pol.is for regular alignment or assessment of whether the organization is still on target with the why statement.
- Citizens Assembly for renewal of the Constitution and other foundational documents.
- Third-party or independent review of activities and their alignment with the goals of beneficial AGI.
- Though there has not been any significant vocal challenges to the current mission, in order to move toward greater decentralization, the ‘why’ of the organization must be collectively decided, which could be a simple affirmation of the current mission, or it could be a realigned statement.

Existing tools and models

- Citizen Assemblies (e.g. through live deliberation platforms like Stanford Deliberate)
- Jokerace for contests on statements
- Iceland’s crowdsourced constitution.
- Pol.is
- Forby.io platform for co-development of proposals
- CitizenOS
- CitizenLab
- Ethelo
- Open calls for proposal and comment
- Guiding Question

Values and culture

This function aims to proactively shape the culture of the SingularityNET ecosystem, that is, to define, evaluate, and promote specific values (what is considered valuable), beliefs, norms and attitudes towards the effective functioning of SingularityNET in relation to its environment.

The Values and Culture function promotes a cohesive identity whilst leveraging said cohesion as a cantilever to enable diversity (clarity on what agreement is required enables healthy disagreement in other areas).

Difference between Values & Culture and Ethics functions: Ethics focuses on defining morality (what is deemed “good” and “righteous”, as opposed to “immoral”) while Values and Culture aims to define “the way we do things around here”. In this sense, Values and Culture takes a more pragmatic and local approach while Ethics a more universal and generalisable one. In consequence, Ethics outputs can be exported to other ecosystems, while Values and Culture ones hardly so.

Artifacts

- Formalized values statements in white papers, manifestos, or foundational documents
- Behavioral standards and norms explicitly or implicitly governed by the collective

Current setup

A strong set of values and cultural frameworks are articulated in key artifacts across the network including in white papers and the mission statement. So far these have been generated in a moderately participatory manner. Further work should use these as a basis for wider participation in their ongoing development, shifting them from static objects to dynamic and evolutionary structures.

The Foundation

The SingularityNET white paper defines the following values:

- Democratizing AI: SingularityNET aims to make AI services accessible to a wide range of users, not just large corporations, by providing a platform where anyone can offer or use AI services.
- Fostering AGI: Beyond connecting narrow AI services, SingularityNET's ultimate goal is to foster the emergence of artificial general intelligence.
- Beneficial / Benevolent/ Inclusive AI: A strong emphasis is placed on ensuring that the AI developed within the SingularityNET ecosystem is beneficial to humanity. The network's economic and governance mechanisms are designed to incentivize and reward beneficial actors and behaviors.
- Decentralization: Decentralization is seen as key to achieving the goals of democratization and beneficial AI.
- Open Network: SingularityNET is envisioned as an open network where any AI service can participate, as long as it follows the network's protocols and interfaces. This openness is crucial for harnessing the contributions of a diverse global community.
- Market Dynamics: The network leverages market mechanisms to efficiently connect AI service providers with consumers and to drive continuous improvement of services. AI agents are incentivized to cooperate and form increasingly sophisticated service chains.

- Evolutionary Ecosystem: SingularityNET is designed to evolve and adapt over time, guided by the needs and contributions of its participants. Blueprint is part of that evolutionary process and aims to build on the voting activity done within.

Deep Funding

The Deep Funding program very clearly articulates its values and culture in the form of several 'Core Design Principles', which it audits across the community, builders, and operators.

- Shared identity and purpose
- Equitable distribution of contributions and benefits
- Fair and inclusive decision-making
- Monitoring agreed behaviors
- Graduated responding to wanted and unwanted behavior
- Fast and fair conflict resolution
- Authority to self-govern
- Collaborative relations with other groups

While these were jointly agreed upon, there is no operational imperative or structure for enforcement. Furthermore CPD1 is difficult to operationalize when the Shared Identity and Purpose has not been stated. Observationally, it appears that many of the participants in Deep Funding are not strongly aligned with SingularityNET due to their lack of engagement in the ecosystem post funding.

Ambassador Program

The Ambassador Program has outlined the following Principles of Decentralization in their Governance Framework draft document.

- Separation of governance from monetized tokens
- Empowering engaged contributors
- Alternative decision-making processes
- Scaling through decentralization
- Documentation and transparency
- Avoiding popularity and representative roles
- Emphasizing diversity and inclusion

While there is no formal declaration of these as core values, the Ambassador's program in general does operate according to these principles.

What's been tried before

All of the formal entities in the SingularityNET have used deliberative processes to reach a consensus on their operating values. The white paper was written without consensus, but everyone has been free to join or not join the network based on their alignment with those values.

Challenges

- Each entity has a different set of values.
- The values are mostly on paper without any operational enforcement or training.
- Some of the values are not aligned with one another.
- Lack of clarity of how dissent is handled.
- As observed in the recent token vote, employees of the Foundation do not express opinions that contradict the declared policies of the Foundation. This is the norm in centralized organizations, but it is not clear that this should be the norm in decentralized organizations.

Decentralization measures or outcomes

Generally speaking, values are implemented by the individual actions of the collective. Decentralization of values isn't necessarily a desired outcome.

Ideas for SingularityNET

- Annual review of values for their implementation and update.
- Elected or self-appointed committee of those interested in the assessment of values.
- Re-writing values based on the reality of people's actions within the different groups.
- Objective or third-party facilitation process to assess values.
- Operationalizing values framework (mentioned in existing tools below).
- Formal ombudsman or committee for dealing with deviation from values.
- Explicit policies regarding dissent, or funding for publication of minority opinions on key issues.

Existing tooling or models

- Competing Values Framework
- Operationalizing values
- Denison model
- Schein's model

Ethics

Ethics is the work to define moral principles that guide the organization as well as analyzing behavior to determine its morality, and accordingly suggest changes.

Ethics serves an advisory function that can be translated into policy via the MetaGovernance function or translated into decisions via the regular Governance process.

One of the most common ways to implement safety is to impose checks and balances. This can be done through regulatory requirements (imposed by governments), quality assurance departments (in software development), judiciaries, or investigative communities. Generally,

the DAO space has not implemented checks and balances due to the bias that “code is law”. When it comes to ethics, the “code is law” is an inadequate approach.

It is highly appropriate in the case of AGI (or any powerful technology) to have enforceable checks and balances. The implementation of ethics and safety bodies with actual enforcement power should be at the forefront of SingularityNET’s thinking.

Artifacts

- A fully community centric ethics framework is in development for the Ambassador Program
- A Code of Conduct or Code of Ethics
- Global AI Ethics Initiative project
- Risk Management Framework (in progress)
- BGI Constitution draft proposal with the accompanying Deep Funding proposal for implementation (The Quintessence)

Current setup

Foundation

- Developing a “risk management framework” for SingularityNET, which covers some aspects of ethics, but this is still in an early stage.
- The Foundation recently launched the Global AI Ethics Initiative (working title) which aims to gather input on ethics from the general public and provide spaces for such discussions to take place. The Foundation has invited the Ambassador Program to contribute to outreach, with expectations that the initiative itself should be conducted in as decentralized a way as possible. The initiative so far has been defined as a research project rather than any type of initiative that would be binding.

Ambassador program

- A fully community centric ethics framework is in development. This includes core principles such as privacy and control; fairness, inclusivity, human agency; accessibility and inclusion; accountability, and equality.
- The program has developed “Community Participation Guidelines”

Supervisory Council

No explicit ethical framework has been established for the Supervisory Council but the mandate states “The Supervisory Council should provide suggestions on how to create processes and structures that can provide ongoing ethical commentary and supervision regarding the balance between speed and safety on the road to decentralization.”

What’s been tried before

No explicit ethical framework for decision making has been implemented before.

Challenges

- The organizations within the ecosystem are not held to any ethical framework.
- Ethics decisions are made behind closed doors.
- There are no checks and balances on decisions made.
- The Ethics Framework being developed by the community (Ambassadors) has no bearing on any of the other entities (Foundation or Deep Funding).
- The Global AI Ethics Initiative project is not appropriately funded (currently looking for funding sources), nor does it seem to have any binding power.

Decentralization measures or outcomes

- Representatives from many different types of demographics would have input on the ethics frameworks.
- The Foundation would follow an ethics framework that came from the ecosystem through a participatory process rather than top down “from the management”.
- Ethics transgressions would be handled and enforced by an independent body that is neutral and not controlled by the centralized powers in the ecosystem.
- At least one situation where a Foundation-initiative was stopped for ethics and safety reasons by checks and balances within the system which would indicate that there are independent bodies within the ecosystem.
- Regular pre-emptive conversations are taking place within the ecosystem regarding the application of AGI and AI to specific use cases before the application is developed.

Ideas for SingularityNET

- Complete the risk management framework for the Foundation.
- Hire an ethics and safety officer or team who participates actively in development decisions around AGI.
- Initiatives requiring key individuals (or everyone) within the ecosystem to have professional training in technology ethics and safety, as recommended in Professional Learning and Development and in the Recommendations for Experiments.
- Align with other leading global institutions on AI ethics and governance standards.
- Set up ethics guidelines through a citizens’ assembly, with guidelines for who can participate developed by a coalition of SNET members.
- On-chain court system to anonymously challenge decisions being made.
- Graduated sanctions for ethical violations and transformative justice.

Existing tools and models

- Separation of judicial and enforcement powers from the financial powers
- Citizens assemblies
- Approval process where an ethics committee reviews major decisions
- Open calls for comment/development of documents
- Participatory decision-making

- Monitoring of the effects of ethics decisions
- Ombudsman or independent appeals body for complaints
- Reflexive learning models to incorporate learnings into future decision making
- Pol.is
- Remesh
- Decidem
- Decide Madrid
- Loomio
- Consider.it
- Stanford Online Deliberation Platform

MetaGovernance

Metagovernance is the governance of governance, i.e. the systems and processes that an organization uses to evolve its governance. In a decentralized, Web3 organization this includes proposal creation processes, voting mechanisms, dispute resolution mechanisms, and the crucial processes related to adapting to changing internal and external circumstances.

In the case of SingularityNET, this could take the form of being responsive to regulatory changes, changes in attitudes towards AI, or changes in the technological context due to recent advancements in AI research.

The process of decentralization itself includes a metagovernance process, which will necessarily involve changes in the way the organization is governed.

Artifacts

- The Foundation's updated white paper with its accompanying Constitution
- Constitution in development for the new ASI token
- Legal framework of the Foundation that determines the roles and liabilities of SingularityNET participants
- All wallets associated with SNET
- Proposal and voting platforms

Current setup

During 2024, there is a metagovernance shift taking place owing to the token merge ratified by a vote in April 2024. The corporate level metagovernance will take the form of a council representing the three organizations that make up the Artificial Superintelligence Alliance, which will make decisions about ASI token releases. There will be 2 representatives from each organization.

Large directional decisions such as adding new members to the Alliance will be subject to a token holder vote, similarly to how this has taken place in the past, but required to pass also through an extra ASI Council vote.

What's been tried before

- The Foundation created a roadmap in 2019, the SingularityNET White Paper 2.0, which outlined an evolving token holder voting structure based on one token, one vote using the AGIX token.
    - Year 1 and 2: Community to vote on minor changes (51% majority)
    - Year 3 and 4: Community to vote on major changes (51% majority)
    - Year 5: Community to vote on major changes (65% supermajority)

- In the SingularityNET Phase 2 Token allocation plan, the Foundation launched the AGIX token that held both liquidity and governance properties, and developed a system for greater community involvement. Large strategic decisions have been placed before the token holder community, requiring a 65% majority to pass.

However, this did not create community involvement rights in ecosystem development as proposals were brought to token holders for an up/down vote only. Community input is different from community rights.

A notable example is the recent Token Merger proposal with Fetch.ai and Ocean Protocol, where the Foundation negotiated a merger in private, announced it, and launched the vote. A Constitution document outlining the governance of the combined entity was developed in private and will be released (pre-ratified by the vote) after the vote outcome is announced.

Challenges

- The lack of inclusion and transparency or collaborative sense-making and no deliberation with the community to evolve proposals before a vote.
- Incomplete proposals being submitted to a vote (key documents not released until the voting period has concluded).
- Favoring speed over community participation.
- Difficulty in ceding control of the direction of SingularityNET through increased community participation in key strategic decisions.
- Exclusive ability of the Foundation to initiate and execute a vote, and to decide the voting criteria (snapshot, qualified wallets, type of voting, etc.).

Decentralization measures or outcomes

- Community deliberation before any proposal is submitted to a vote.
- Proposals submitted by non-foundation members go to vote by token holders.
- Moving from token holder voters to multi-stakeholder voters.
- Collective control of defining and passing metagovernance processes.

Ideas for SingularityNET

- On-chain agreements to map and trace agreements between entities trustlessly and automate enforcement of agreements.
- Citizen Assemblies including multiple stakeholders to develop and submit metagovernance proposals for a vote.
- Competitive proposal submission for addressing a specific opportunity or challenge (Multiple options / ranked voting).
- Moving from token voting to multi-factor token voting (multiple stakeholder classes represented each by a factor).
- Adding a Context Score - quantification of how much context an agent has on the community's current state - as a factor in weighting voting power.
- Delegation to 'parties': delegation to groups where the majority vote amongst voting group members wins the weight of the non-voters who delegated to the group.
- Condorcet voting (ranked choice) instead of binary (favor/against) ballot and possibility for counter-proposals to be added to a vote.
- Liquid democracy: enabling chains of delegation where a delegate can in turn delegate to someone else. Participants can choose to vote directly in any decision or, if they don't vote and have delegated, their voting weight is passed on through the delegation chain until someone votes.
- Constrained delegation: delegating domains of authority to subgroups.

Existing tools and models

- Token based quorum voting
- Relative majority voting
- Moloch DAO framework
- Multisig voting
- Quadratic voting implementation using Snapshot and Gitcoin Passport
- Holographic Consensus used by DAOStack
- Jokerace
- Collaborative proposal-making
- Ethelo
- Harmonica - AI-powered deliberation and sense making

Membership and legal structure

Modern decentralization practices are a complex negotiation of technological systems and the legal fabric of society. SingularityNET is a global system, both as a remote company and by operating as a blockchain-based organization. Its network participants reside in every corner of the world. Consequently, SingularityNET needs to build core systems and processes that can evolve with these shifting regulatory contexts, as nation states decide how they wish to engage with AI and crypto systems. Aiming for maximal compliance will be of paramount importance to ensure that emerging AGI will align with societal norms and practices, whilst at the same time balancing open access and global function.

Furthermore, membership is not a fixed mark, as it is socially bestowed. It implies some amount of privilege. The social nature of membership makes the relationships and boundaries between individual and organization ambiguous. This can lead to unintentional membership (and risk), or lack of clarity around membership rights.

Artifacts

- Legal structure, including shareholding and membership (LLCs, associations, or partnerships)
- Token rights
- Formal membership roles certificates, NFTs, or Discord icons
- Membership level definitions (for example, in the Ambassador Program, a certain number of hours of work gives membership status in working groups)

Current setup

Foundation

The foundation is currently undergoing a significant restructuring moving from the Netherlands, to Switzerland. The Foundation is a hierarchical organization that functions similarly to other centralized organizations, with the addition of token holders as part of the organizational structure.

Decisions regarding changes to the token allocations require a majority of 65% vote among the AGIX token holders, for example. The Foundation can also require a vote of token holders for any decision they deem to be important, as in the token merge of April 2024.

Foundation membership:

- Board members
- Employees
- Contractors
- Token holders

The spin-off companies can loosely be called members in some way, but there are no formal legal ties between SingularityNET and the spinoffs once the spin-offs are independent. Spin-offs that are still operating within the Foundation, i.e. are receiving funding from the Foundation, remain within the above framework.

Ambassador Program

The Ambassador program defines their own membership process and presently uses a contribution based governance framework that relies on tracking task completion on the Dework platform and on-chain verifiability through metadata.

The Ambassador program does not have a formal legal entity, with or without Foundation legal support. Functionally, anyone who has joined one of the operational teams is a member of the Ambassador Program.

- The Ambassador Program is open to anyone, token holder or not, who wants to join (see Onboarding) but governance is allocated through a contribution based system on Dework.
- The Dework Platform and the Ambassador Discord channel are used to organize members. Roles are assigned based on skills or service.
- The Ambassador Program is in the process of creating a training program that will provide the appropriate capacity building for people to officially become an Ambassador.

Deep Funding

Formal membership is not defined, but anyone who is a proposer, official team member, or circle member, or has received funding is considered a member. Deep Funding circle members are in charge of all tasks related to Deep Funding. The Deep Funding circles membership overlaps Ambassador Program Membership.

Supervisory Council / Task Force

The Task Force is a temporary body for the creation of this blueprint. Supervisory Council members were elected (by fewer than 100 voters) and those elected Supervisory Council members chose Task Force members.

What's been tried before

Foundation determines employee and contractor roles. No strategy for defining membership in any other groups (such as Ambassadors and Deep Funding) other than membership conferred by token holding has been tried or developed.

The Ambassador Program maintains an instance of the Dework platform and has official membership definitions based on the amount of work that people have contributed on the platform through the workgroup teams.

Challenges

- The current Supervisory Council does not have enough legal experience to make recommendations in the area of the legal structure and it is beyond the scope of this current Blueprint.
- An appropriate professional body should be established for dealing with the legal issues around decentralization.
- The Ambassador membership and governance process is not integrated with Foundation governance and leadership. Participation in Ambassador governance does not confer any rights within the Foundation.

- The Ambassadors have a fully decentralized membership process by human consensus mechanism, but no decision making power in the SingularityNET ecosystem, nor control of their wallet.
- There is no shared trajectory for someone to move from one type of membership to another / trajectory for upgrading membership.
- (See also Onboarding)

Decentralization measures or outcomes

Currently the membership status beyond token holding is “disorganized” because Ambassadors, Foundation, and Deep Funding don’t have consistent membership levels among each other. In some ways, decentralization needs more shared protocol / organization than formal “decentralization”.

- Shared protocol / interoperability of membership / reputation across bodies.
- Inter-body agreements about what levels of membership mean.

Ideas for SingularityNET

- The Supervisory Council recommends the allocation of funds for the purpose of making sure that the participants in the Ambassador program and other community efforts are appropriately protected from legal liability.
- Agree on membership standards that are recognized by everyone in the ecosystem, e.g. an accredited university degree, or a minimum level of participation.
- Create cross-body agreements about the meaning of membership and/or reputation across different ecosystem members so that the different entities informally recognize each others’ membership levels.
- Place appropriate Foundation staff, such a marketing employee, in the Ambassador program for an experimental time period, such as six months, to directionally move toward decentralization.
- Creation of a legal token agreement.

Existing tools or models

- Progressive decentralization
- The sub-DAO model
- Tiers-based roles certifier
- Membership criteria, cards, or membership fees
- Hats Protocol
- See also Reputation
- Belts in martial arts
- LexDAO

Future

Research and development

Research and Development (R&D) are the activities aimed at advancing the state-of-the-art in artificial intelligence technologies and other foundational technologies used by the network e.g. blockchain or distributed ledger technologies (DLT).

R&D includes:

- Fundamental Research: Conducting fundamental research to develop new algorithms, models, and techniques to improve the capabilities of AI systems. This could involve exploring new machine learning approaches, enhancing natural language processing, improving computer vision systems, or innovating in other AI subfields.
- Applied Research: Implementing and refining AI technologies based on research findings. This involves translating theoretical concepts into practical applications, building prototypes, and iterating on them to improve performance, scalability, and reliability.
- Innovation: Experimenting with novel ideas and methodologies to solve complex problems or address emerging challenges in AI. This may involve interdisciplinary collaboration, exploring unconventional approaches, and pushing the boundaries of what is currently possible in AI and blockchain tech.

R&D does not include Productization: Integrating R&D outcomes into commercial products or services, refining research prototypes into production-ready solutions, optimizing for performance, usability, and scalability, nor ensuring that they meet the needs of customers or end-users.

Current setup

SingularityNET has taken an innovative approach to building out functional decentralization of core research and development practices, by using “hub and spoke” approaches and classic decentralized organizational approaches to build islands of autonomy across the network.

Functionally:

- The Foundation is led by and employs thought leaders who are funded for the development of their AGI visions.
- Spinoff organizations are provided with advice and some in-kind support for their token launches. These spinoffs are carefully vetted for their alignment with the organizational mission, but ultimately the market determines their success in their funding efforts.
- Deep Funding provides a progressively increasing budget of seed funding and ongoing funding to smaller projects.

Possible success of the Deep Funding projects could include being integrated to the Foundation's core development, one of the spinoff's core development, or to become a spinoff on their own. None of these are official trajectories, but they are all centralized in direction (from the decentralized funding into the centralized Foundations and spinoffs).

From a decentralization perspective, the preferred directionality is for the Foundation to incrementally move its development teams into the Deep Funding platform. While this isn't currently taking place in the Foundation, suggestions have been made that spinoffs and partner organizations can use the Deep Funding platform for their own development needs, creating grants rounds either with their own funds or based on existing Deep Funding budgets using an RFP process.

What's been tried before

- Discussions of partnership programs where Deep Funding can be an R&D resource for centralized organizations to launch development efforts. The first such partnership is expected to be announced around the time of publication of this blueprint.
- New RFP plan for the community itself to make calls for Deep Funding based on the community's priorities.
- The Foundation has announced a Venture Studios partnership with Yunity. This could potentially compete with or replace the Deep Funding mechanism. (This looks like a step towards centralization, but we do not have adequate information to make a full assessment.)

Challenges

- Future strategy is set by the Foundation.
- No ethics or safety oversight is in place for the Foundation's decisions on AGI development.
- Similarly, no ethics or safety oversight is provided for spinoffs or Deep Funding projects.
- Specifically regarding the Marketplace, the development of the platform lags behind market needs. The SingularityNET Foundation has a roadmap for updating functionality but the Marketplace does not have the active support of the community although the Deep Funding rounds reference it in all application processes. There is no channel for receiving community input or handoff to the community. The Supervisory Council made a technical assessment of the marketplace, which showed almost no community buy-in.
- Lack of process for decentralizing future planning and strategy.
- Spinoffs have a theoretical tie to the Foundation, but are not obligated to continue as part of the ecosystem.
- Developers and teams seeking stability will naturally wish to be "integrated" into the Foundation rather than depend on the Deep Funding program for ongoing support.
- Lack of any types of checks and balances in terms of the strategy, tactics, and implementation of AGI developments.

Decentralization measures or outcomes

- An increasing amount of R&D needs of the Foundation are handled through Deep Funding or other community-based processes.
- Successful projects funded through Deep Funding receive resources from the Foundation, and rather than being folded into the Foundation, these projects represent alternative or supplementary trajectories for R&D.
- The community is an essential part of the strategy and planning around the AI marketplace.
- A formal process is in place for the community to have input and potentially even veto developments they feel are against the interest or the values of the community.
- The Yunity/SingularityNET Venture studio would be transformed into a decentralized organization working through the DF structures.
- R&D strategy receives and integrates input from the community.

Ideas for SingularityNET

- Development of a specialized Research Grants program.
- Creation of research fellowships to invite others to collaborate.
- Develop a broader community of practice with (initially) gated membership.
- See also the section on Ventures Funding (and support).
- Community collaboration with the Venture Studios that the Foundation has chosen

Existing tools or models

- Venture studios
- Venture investing
- Think tanks
- Offsite retreats for strategy and future thinking
- Fellowships
- Skunkworks
- Sabbaticals
- Checks and balances (judiciary, veto power)
- Public commenting periods with requirements for implementation of community comments.
- Placing staff in different teams for cross-pollination
- Any of the tools cited in other sections for gathering and processing multi stakeholder opinions and strategy

Vision

The Vision defines the future, aspirational state of the network; the destination that network participants align towards. The hypothesis is that if said Vision is achieved/reached, the needs of the different stakeholders will be appropriately satisfied, thus fulfilling the purpose of the network.

Artifacts

- Official Vision statement

Current setup

Recently, the Foundation made a major strategic proposal to merge the AGIX token with two other organizations, and the decision needs to be ratified with token holders. Changes to the organizations themselves as a result of this (for example, collaborations between Deep Funding and the Ocean Protocol DAO) will be approached carefully with the intention of having all communities involved.

What's been tried before

- Ratification and voting on major changes such as Phase 2 of the token issuance and the token merge.

Challenges

- Having a long-term vision set in a largely centralized manner may not create sufficient buy-in for a decentralized network.
- The community is asked to ratify major changes but they are not consulted as those are being considered (which may be impractical in the case of a merge).
- No checks and balances are in place for changes in vision. For example, if the organization decided to change the vision to be "maximization of profit" rather than "beneficial AGI", there is no body that serves to have oversight to prevent this type of change.
- The community may or may not agree with Vision decisions, for example, the Ambassadors have not shown interest in maintaining or promoting the marketplace.
- Lack of clarity on what "Beneficial AGI" means, and how it would be assessed if something is or isn't beneficial.

Decentralization measures or outcomes

- Setting periodic strategic discussions among the different stakeholders.
- Documentation of which ideas have been taken into account in strategy updates.
- Inclusion of community members in strategy councils.

Ideas for SingularityNET

- Periodic Vision sessions with representatives from all bodies within the network.
- Requirement for ratification by vote of Vision decisions.
- Running of a Vision Assembly (inspired by Citizen Assemblies' design) to define an overarching Vision for the network together with the communities that participated in the token merger.
- Creation of "Circles" similar to those for Deep Funding, and delegation of facilitation of Vision process to one of said circles.

- Creation of a constitution and implementation of an enforcement authority for the constitution.

Community Alignment with Why Statement
The Supervisory Council has reviewed and discussed the objectives of SingularityNET, and based on the current state of the industry and the capabilities of the active community, the Supervisory Council proposes the following focuses for the years 2024-2025, with the intention that the community will revisit the purpose in mid-2025.

- **AI and AGI security, safety and ethics.** Under this purpose, the following functions will be relevant:
    - Development of AI and AGI tools for safety and security, primarily through Deep Funding.
    - Development of AI and AGI infrastructure, primarily through the Foundation and spinoffs.
    - Review and certification of products and technologies, primarily through Ambassadors or communityDAO.
    - Ethics reviews, education, and multi-stakeholder input mechanisms for AI., primarily through Ambassadors or communityDAO.

This initial purpose allows for the maintenance of the existing structures in the SingularityNET ecosystem and also provides a unique contribution to the AI and AGI community as a whole.

Existing tools or models

- Citizen Assemblies
- Delegation to a team
- Constitution of values and processes with a constitutional enforcement capability if the founding principles are violated
- Clarity of what a supermajority would be in case of the need for a change in the constitution
- Focus groups
- Checks and balances: independent bodies which have enforcement authority over the Constitution, whitepaper or other community-ratified documentation.

Change

Strategy

Strategy is the approach taken to achieve the Vision. The core of Strategy as a process is prioritization and trade-offs: selecting what to prioritize and what not to prioritize amongst multiple desirable choices. Strategy also includes the knowledge, creativity, research and

analysis (strategic planning) to devise options and select amongst them while deciding on risk (high risk-high potential approaches vs low risk-low potential).

Artifacts

- Strategic plan for the ecosystem.

Current setup

Foundation

The strategy for the Foundation is based on the Foundation leadership, particularly Dr. Ben Goertzel. Strategy principally has revolved around developing his ideas about AGI and creating the funding and partnership opportunities to support those ideas.

Strategy development is done in a fully centralized manner.

Ambassadors

The Ambassador program has a Strategy Guild on Discord, and additionally uses monthly town hall meetings and Core Contributor votes to align on strategy internally.

Deep Funding

Strategy is spearheaded by the internal team with the collaboration of community members through town halls, and emerging in a Circle system implemented in early 2024.

What's been tried before

- Creating a Deep Funding wallet and the Ambassador Program, but no further framework or goals were established to ensure further decentralization or enhancement of them.
- Establishing "heads" of the Foundation's decentralized arms (Deep Funding and the Ambassador Program) and budget allocation for those groups in the Phase 2 token plan.
- Contracting a Decentralization Program Lead by the Foundation to work with the Supervisory Council, as the representatives of the community, and the Foundation to align on a framework for decentralization and clarify the functional and aspirational natures of SingularityNET.
- Electing Supervisory Councils with different definitions of responsibilities.

Challenges

- Lack of alignment on purpose between some groups.
- Disorganization within and among SingularityNET bodies about strategy.
- No checks and balances on strategic initiatives. For example, the Marketplace strategy so far has not taken off, and a discussion needs to happen but there is no process in place for a public rethinking of strategy.

- No formal requirement by the Foundation to incorporate opinions or interests of the community.
- Dissenting opinions in the community are accepted and tolerated but there is no process for deeper investigation or adoption of alternative views.

Decentralization measures or outcomes

- Formal strategy process is documented and transparent.
- Community members are invited to strategy sessions and/or it is obligatory to have community members who are not beholden to the Foundation in the strategy session.
- Public commenting on strategy ideas is implemented.
- At least one of the strategic directions was decided outside of the Foundation.
- When the community and Foundation disagree about strategy, a compromise is found that is acceptable to all bodies.
- People internal to the Foundation feel free to express different opinions from one another and from the management team during public strategy discussions.

Ideas for SingularityNET

- Have the Foundation team participate in Swarm, a decentralized and adaptive organization that operates based on trust and empowerment. It is a movement of contributors who believe in each other's leadership abilities and work collaboratively to create spaces where convergence can occur. You can see an illustrated example here.
- Have Foundation staff involved in strategic planning part of the Ambassador's Strategy Guild.
- Develop a way to embed smart contracts into strategic goals tied to funding, or renewal of funding.
- Run a Strategic Assembly: akin to a citizen assembly, inviting multiple stakeholder groups to deliberate on a strategy for SingularityNET's community and ecosystem development.
- Elect an Expert Committee for determining an annual strategy.

Existing tools or models

- Swarm, see illustrated example here
- Citizens Assemblies
- Future Guardian Governance
- Six Thinking Hats
- Legislative Theater

Fund Allocation (Singularity NET level)

Fund allocation is the process of allocating capital resources to the areas identified in the strategy. As such, it is a strategy setting mechanism.

Artifacts

- Phase 2 token allocation plan

Current setup

Funding allocation is delineated in the Phase 2 token allocation plan, which outlines a number of newly-minted tokens to be released in decreasing amounts each month:

- 50% to the Foundation
- 30% to Deep Funding
- 5% to Liquidity wallet
- 5% to Loyalty Rewards wallet
- 3% to the Reputation wallet
- 3% to the Staking Rewards Pool
- 2.5% to support SophiaDAO
- 1.5% to the Supervisory Council wallet
    - ⅓ of which goes to the Ambassador wallet - 0.5% of total tokens

The Phase 2 Token Allocation was proposed by the Foundation and ratified by a nonbinding community vote.

From this high level funding allocation, the different entities within the ecosystem manage funding differently. The way the different entities then distribute the funding they have received is covered in Operations under Budget Allocation (Units level).

What's been tried before

- White Paper V1 (2017)
- White Paper V2.0 (2019)

Challenges

In practice, the Foundation determines the allocation of funding to each area of SingularityNET. They sign on the multisig wallets and review and approve individual expenses for Deep Funding, the Supervisory Council, Liquidity wallet, Loyalty Rewards wallet, and the Reputation wallet.

Regarding the vote for or against the funding allocation, it is advisory only. Can only the Foundation propose changes to the funding allocation amounts, or is there community input? Can token holders propose allocation amounts? Who can submit to the voting platform? Who decides on the voting eligibility and methodology? The general lack of visibility into this process can be improved upon.

With the token merger it is unclear how token holders from the Fetch.ai and Ocean Protocol could impact funding allocation amounts within SingularityNET.

Decentralization measures or outcomes

- Participatory funding allocation determination process that requires input from ecosystem members that cannot be vetoed or changed by any one body.
- The multisig wallets are controlled by the entities they are allocated to.

Ideas for SingularityNET

- Restructure allocation determination process to include members of the wider SingularityNET community.
- Create a representative council of 1 person from each unit (SC, DF, AP) who have to approve any proposal made by the Foundation to all token holders.
- Use a system or smart contract with automated quarterly allocation of tokens, allowing the entities to hold their own tokens but only to spend the budget in a graduate way.
- Rotate multisig signers on a schedule.

Existing tools or models

- Multisig wallets for Units to receive and manage their own funding
- Role assignments via tools like Hats Protocol
- Bank module of FactoryDAO
- Co-budget
- Citizen Assemblies to decide on budgeting
- Beyond Budgeting
- Governance Modules Library
- Legislative Theater

Accountability

Reporting and Analytics

Artifacts

- Key Performance Indicators (KPIs)
- Objectives and Key Results (OKRs) reporting (OKR *setting* is part of the Strategy section, OKR *monitoring* is part of this section)
- Other Performance data

Current setup

There is no unified method of reporting, analyzing, and auditing. Groups decide how to do this on their own. Furthermore, because the KPIs for each group are not formally declared, only financial audits are made. The exception is with Deep Funding, where each team funded is required to provide reporting on their progress and delivery as a condition for receiving their grant allocations.

A tremendous amount of work takes place in public, including all on-chain token activity. Therefore, SingularityNET is in a good position to implement analytics and reporting structures, because much of the necessary data is captured by default on public blockchains.

Foundation

Provides annual financial reports to the community, though there are sometimes delays. They also provide a quarterly report from the ecosystem to the community, including updates from the decentralized communities and spinoffs. There are monthly video updates from the Foundation and spinoffs released on YouTube. The Foundation has started a weekly livestream, Technical Tuesdays, which informs the wider community about the technologies in development at SingularityNET and sometimes about progress on these projects, though this is very general. Regular blog posts and participation in community events provide the community the opportunity to get ongoing reporting and information from the Foundation, should they choose to share it.

Ambassadors

Transaction data is transparent and public, and Treasury sessions are open to anyone. The Ambassadors have a dashboard to display wallet activity.

The Treasury Guild makes quarterly reports, as do many of the other workgroups and guilds. Though not mandatory at this time, the guilds plan to experiment with making quarterly reports mandatory in Q3 2024.

The transactional data recognises time, interest area, and contributor skills. These relations help us to design common understanding and value of the contribution within the network For more detail see:

- https://SingularityNET-ambassadors.gitbook.io/home/rewards-and-treasury/how-rewards-are-distributed
- https://SingularityNET-ambassadors.gitbook.io/home/rewards-and-treasury/how-we-manage-financial-resources

Deep Funding

All Deep Funding activities and rounds are displayed on public fora.

What's been tried before

No attempts at decentralizing and improving this function further have been made.

Challenges

- No clear objectives mean that there are no obvious reporting structures.
- Lack of data management systems and dashboards for reporting.
- Most data management infrastructure is built on centralized infrastructure with top-down permission management, creating risks of manipulation and tamper by system admins.

Decentralization measures or outcomes

- Key Performance Indicators (top-down data collection) is standardized, transparent, and the definition of indicators is subject to community governance.

- Reporting infrastructure has permission management systems that are compatible with DAO configuration (as opposed to top-down super admin being able to tamper data).
- Indicators are available in real time.

Ideas for SingularityNET

- Integrate reporting functions with strategy and RFP writing, so that there are clear outcomes and KPIs at the start of each process.
- Define KPIs for each operational Unit within the DAO and set up a quarterly review process of KPIs and multi-stakeholder evaluation of KPI selection.
- Develop decentralized reporting infrastructure with permission management compatible with decentralized DAO governance.

Existing models and tools

- TogetherCrew community dashboard

Audit

The Audit function seeks to provide additional accountability and transparency to inform decision making. This should include regularly scheduled audits as well as random audits.

Current setup

The Foundation is not required to be audited by a third party. The Ambassador Program and Deep Funding are not audited by the Foundation nor third parties.

What's been tried before

No specific initiatives have been tried or documented.

Challenges

- Lack of culture of transparency and reporting

Decentralization measures or outcomes

- The Audit function has functional autonomy (division of powers) to perform probes.
- Channels and protection to exist for any person in the ecosystem to express concerns (i.e. whistleblower protection).
- Audits are carried by rotating members and anonymous or otherwise selected through sortition and for short delays.

Ideas for SingularityNET

- Appoint or elect a council representing different entities to design and implement auditing processes.

- Develop a sortition mechanism for auditors to be mandated to do probes at randomly selected intervals (no longer than yearly).

Existing tools or models

- Web2 auditing firms
- Web3 auditing firms

Coordination

Conflict Resolution

The Conflict Resolution function seeks to resolve conflict. This can include inter-organizational (within the community), intra-organizational (between the community and an external organization or partner), or interpersonal (between two people within the community) and the frameworks to address each type.

Artifacts

- Rule sets
- Procedures for complaints or disputes
- Roles handling disputes
- Human resources or People and Talent departments

Current setup

Foundation

The Foundation manages conflict internally on a case by case basis with its contractors.

Ambassadors

The Ambassadors are always experimenting with new methods to resolve conflict. They have developed a conflict resolution procedure utilizing a roundtable and mediation team. A series of consequences has been established: verbal warning; written warning; education; suspension; probation; permanent removal and any other actions as determined by the Mediation team.
It is a four-tier process:

- Informal Resolution
- Mediation
- Roundtable involvement
- Appeal to Supervisory Council

This process is still under consideration and each working group or guild is free to choose their own methods.

Deep Funding

There is currently a plan for a Board of Appeal Circle, which will be responsible for mediating conflict between awarded or applying teams and eligibility/milestone/quality reviewers. Deep Funding is also developing a general decision process and tooling strategy for its circles. The plan is to include dispute resolution into the decision flow.

What's been tried before

See experiments being started by Ambassadors and Deep Funding in the above section.

Challenges

- No clear objectives mean that there are no obvious reporting structures.
- Creating a culture of healthy conflict resolution takes buy-in from all parties.
- Many professional services have a cost, and require agreement by the community.

Decentralization measures or outcomes

- Teams decide their own conflict resolution methods.
- Conflict resolution regarding voting or on-chain activity is handled by a

Ideas for SingularityNET

- Create cross-entity accountability for checks and balances within the ecosystem when reporting on accomplishments.
- Appoint or elect a council representing different entities for auditing and accountability.
- Breaking responsibilities down into discrete teams that have sufficient autonomy to make decisions can remove the need for conflict in the first place–so long as the teams are aligned at the level of their collective goals.
- Bring together the different entities in the ecosystem for the design of a transparent process for appointing neutral third parties for management of dispute..
- Robust evaluation framework for partnerships that define conflict resolution mechanisms for the partnership to advance.

Existing tools or models

- Kleros
- Peace-Keepers.io
- GravityDAO
- Aragon Court
- Traditional mediation through a neutral third party.
- Ombudsman
- Free market resolution (try both and see which works better)

- Arbitration - both sides are heard and a third party makes a ruling
- Escalation frameworks

Knowledge Management

The Knowledge Management function is the framework by which an organization stores, shares, organizes, and identifies data relative to its operations. Effective knowledge management supports the creation of institutional knowledge by offloading expertise by any given member into systems that can be accessed by current or future members.

A knowledge management system contains a documentation system (writing down process, for example), a knowledge creation system (capturing and archiving lessons learned from experience), and a cultural system of sharing experience from generation to generation (passing on of stories and latent context).

Decentralization of Knowledge Management constitutes:

- Democratization and appropriate control around who gets to create, edit, and publish content.
- Access to knowledge, including accessibility for disabilities, language preferences, and learning modality preferences.
- Technical control of the knowledge database in terms of where information is stored, who has the control of the database, who has publish and delete access, access to archives, and decision-making around archiving.
- Documentation of what comments and changes were integrated, who had authority to integrate the changes, and history of information that was integrated as well as what was rejected.
- Intellectual property and attribution of the knowledge.

Artifacts

- Content management standards: Capturing, organizing, and storing knowledge like documents, reports, manuals. Each of the entities in the ecosystem is creating its own content. Typically, in the Ambassador and Deep Funding orgs, content creation is an open process and the Ambassador program uses a collaborative consensus and discussion mechanism to approve content to be published (in the case of videos).
- Processes: How knowledge is shared or flows in the ecosystem. Each of the entities holds keys to the knowledge sharing tools. Except for the Ambassador Program and some aspects of Deep Funding, the processes of what gets published are centralized and opaque to the outside.
- Accessibility: Each of the entities determines its own policies for accessibility.
- Attribution records.
- Attribution and intellectual property licenses.

Current setup

The current Knowledge Management setup can be described as “disconnected” rather than decentralized. Each entity does its own knowledge management, and makes its own decisions about what to publish. While the Ambassadors use a collaborative process for creation and sharing of information, as well as multiple administrators with the keys, for the other entities, the processes are more opaque.

Ambassadors

The Ambassadors use an extensive gitbook archive, maintained by the Archives workgroup. The Knowledge Base workgroup establishes processes for identifying, labeling and organizing content and uses it to design information packages through GitBook. The implementation of research will be shared on Ambassador GitBook.

The Foundation

Knowledge management is chiefly through Google suite internally to the Foundation, and through some task management software for individual departments e.g. ClickUp for the Marketing Team. These are centrally managed entities who determine what to publish internally versus outward-facing. For example, there is a regular “All Hands” meeting which is attended by whomever the Foundation deems to be “All”. That generally includes employees of the Foundation and senior management from Spinoffs, as well as the Supervisory Council and selected leaders from the community (Ambassadors/Deep Funding). The recordings of this, likewise, are shared only to those who are in the meetings. Other internal resources are shared based on each individual or department’s sense of who they want to share with.

Deep Funding

All information about Deep Funding Rounds is public (on the Deep Funding or previously the Swae platform). Administrative rights to that platform are held by the Deep Funding team. Presumably that data cannot be tampered with, but no audit has been performed. The data of past rounds, awards, and success of teams is difficult to navigate.

Information for proposers is being developed in a Gitbook, which informs awarded teams about the workflow from start to finish. Information for prospective proposers is still being added. The internal team (Foundation members) have the credentials for the Gitbook.

Information for prospective proposers is also available on the website, which is paid for and run by the Foundation using the internal web development team.

The Circles teams use a Google Workspace for Deep Funding, where each Circle or group has its own folder.

The Supervisory Council was not given a pre-established framework for knowledge management upon election. A private Notion page for the Supervisory Council and Task Force members, through RnDAO's account, is used to house working information for the writing of this document.

However, the Supervisory Council participates openly and often in community meetings to share progress, updates, etc., and has maintained transparency in its work through use of public wallets and regular open publications. The Council also displays its information on a website, via a Tilda Business account belonging to the Foundation, with access rights owned by the Marketing Team and shared with the Decentralization Program Lead.

This document (i.e. the Blueprint) is open to community comment and revision. Information was collected from the community on this document as well as previous versions, and through a series of workshops with the community. However, no process was put in place for attribution of the contributions of the community, nor was there a formalized process for collecting, accepting, and rejecting comments. The Supervisory Council and the Lead Writer had full discretion about what comments to include or exclude.

What's been tried before

- Some content management software systems have been tried in the Foundation but were not sustained in the long term.
- Currently there is a Knowledge Management Initiative underway with the collaboration of the SC, the Ambassador Program and Deep Funding for coordination around a shared "home" set of websites and potentially reaching forward to include Gitbook and/or Google Docs in some shared / aligned capacity. SC has approved funding from its budget for this initiative.
- Currently underway is a push for a LATAM Ambassador program. Presumably this group will address accessibility of documentation in Spanish and Portuguese.

Challenges

- Centralized control of official channels means that Ambassadors, Supervisory Council, and other community groups need permission to get in the official channels.
- Only the Ambassadors have democratized access to the information and knowledge bases.
- Although all Deep Funding rounds, proposals, and votes are public information, the records are difficult to navigate. Because previous rounds were on a different platform, the information can be lost.
- The official channels can (and do) control what can be said by the sub-entities on the official channels.
- Opaque processes for accepting, rejecting, and rewriting materials (including for this document).
- Difficult-to-follow versioning records, no database for comments that weren't accepted but might be useful for future work.

- Lack of attribution or pre-determined agreements about fair compensation for people who contribute to community-generated documents (such as this one).
- When integrating feedback from different bodies, there is no record or need to justify what information is included, excluded, highlighted, or changed.
- Critical information (mergers, partnerships, strategy, etc.) is decided behind closed doors and the information about the decisions is limited/controlled even when those decisions are brought to a community vote.
- A tremendous amount of information is scattered through a variety of Google Docs. The Website initiative is an attempt to coordinate these different sources of information.
- Multiple in-groups exist throughout the ecosystem, and it's impossible to know that they even exist unless you are invited. (It's OK to have in-groups and closed directories, but it might be useful to have a list of directories so people at least know what might be available).
- Anyone who is not fluent in English is left out of most of the knowledge across the ecosystem.
- No ecosystem-wide repository or collective memory.
- No processes for handoff of the knowledge databases.
- No checks and balances or appeals processes around what is published and what is not.
- No formal correction mechanism to manage publication and distribution of misinformation or information that has become outdated.
- Records of comments, alternative narratives, opposition viewpoints, and alternative ideas are lost once official versions of information are published, except in the case of the Ambassador's Archives work group, where meeting the summary template include documenting decisions, rationales, and opposing viewpoints. This template is available for others to use.
- Difficulty in establishing institutional / organizational memory.
- Alternative views are not welcome in some spaces and there is potential for groupthink because it's difficult to retain those with alternative viewpoints.
- People in positions of formal or informal power are at risk of not getting truthful or full information from those who are in less powerful positions.

Decentralization measures or outcomes

- Public listing of the types of directories that are used internally by different entities (even if they are inaccessible).
- Public policies about what types of information is kept secret in the Foundation.
- Open source and auditable documentation libraries of code developed by SingularityNet. Budget for third-party auditing and publication for the community of findings of audits.
- Publication of Deep Funding platform audit.
- Administration and development of the Deep Funding platform is owned by the Deep Funding circles or members.
- Clear procedures and processes for publishing of information on both official and unofficial channels.

- Multiple administrators of knowledge databases with no one person who has super-administrator power.
- Decentralized storage of knowledge (IPFS or other DePIN).
- Auditable records regarding when information is added, deleted, accepted or rejected (especially the deleted and rejected)
- Checks and balances for processes that archive, delete, or make information less accessible. For example, someone selected from the Ambassador program who consults with the Foundation about content deletion.
- Knowledge is available in multiple languages and in formats that are accessible to different audiences. (A measure of success could be the proliferation of Ambassadors in multiple languages.)
- Documented process for getting access to information that needs to be protected in some way.
- Easy navigation of past information on funding rounds.
- Knowledge management principles and locations are transparent to all.
- Rules are clear about who can access what, and how permissions are granted.

Ideas for SingularityNET

Use tools that can track user clicks on SingularityNET, Deep Funding, and Ambassadors' websites to measure the type of content people are looking for and in what sequence.

- Development of joint administration privileges feature for the Deep Funding Platform.
- Development of easy-to-navigate reports and analytics for Deep Funding past rounds.
- Development of an "Attribution Engine" which would be able to go through collectively-written Google Docs and create an attribution table, a history of comments, who accepted or rejected them, and a basis for rewarding the contributors. This could be a product that could be sold to other organizations.
- Development of a Feedback and Comment platform for this document (which could be used for other collectively created documents).
- Development and publication of processes for publication and maintenance of information across the network.
- Development of a pull-based query system that allows people to find the information they need across the ecosystem.

Existing tools or models

- Github, Gitbook and other Wiki platforms with the ability for multiple people to maintain commit permissions.
- Content Management Systems with permissioning systems.
- Tool for decentralized sensemaking: https://coasys.org/
- Society Library, libraries of different opinions on a topic with attribution. https://www.societylibrary.org/
- Murmurations https://murmurations.network/ allows websites to place tagging tools in the website and then you could create a pull of those websites with a specific tag. Could be used to create lists of related SNET publications.

- There are several Web3 archiving protocols that make storing and retrieving information on the blockchain easier such as Arweve and IPFS. However, not all information for an organization may need to be stored in a P2P system. It's important to take into consideration the cost of cloud storage and P2P storage solutions, as well as the ability to retrieve information, and what is important to have a record of, and what is temporary.
- HackMD for version control, collaborative writing.

Communications Platforms

Tools or applications that enable individuals, groups, or organizations to communicate and exchange information efficiently. These platforms facilitate various modes of communication across different devices and locations and can be broadly categorized into messaging apps, video conferencing tools, social media platforms, and unified communication solutions that combine multiple communication modes into a single platform.

Artifacts

The tool and application subscriptions the SingularityNET bodies have, who controls them, and what their purposes are.

Current setup

The communications platforms are fragmented, with different groups using different platforms to do their major work. The groups tend to have their own control of the platforms that they are using. In the Ambassador Program there are multiple people who have Administrator access. In other programs, .

- **Discord**: The SingularityNET Discord server, where community channels reside (and some spinoffs), is managed and administered largely by Foundation Members, although some Ambassadors are also admins. The Foundation manages access rights.
- **Telegram**: The main announcement channel is controlled by the Foundation. The Foundation has 100% control of what is considered official. The open Telegram channels are managed by a group of administrators who have a separate channel to discuss moderation policy. Ambassadors, Deep Funding, and even unofficial chat channels are managed by different groups of administrators.
- **Mattermost**: The Foundation of SingularityNET uses a Mattermost Server and anyone with an internal email is automatically added. Outsiders can be added by invitation. The management of the server is done by the internal Foundation team.
- **X**: The Foundation Marketing team controls the SingularityNET main account posts about developments - mostly marketing and events.
- Ambassadors and Deep Funding each have separate social media accounts which are managed by their administrators.
- **Blogs**:

    - SingularityNET Foundation blog is run by the marketing team on Medium. It includes a variety of content at different levels. Guest posts are welcomed and sometimes solicited from spinoffs and partners. The access is controlled by the marketing department of the Foundation.
    - Ambassador blog is usually internally focused and controlled by an administrator from the Ambassador program.
- **Emails and shared drives:**
    - The Foundation has a Google Drive for shared documents, and some non-Foundation staff, such as Ambassadors are given access on a need-to-know basis.
    - The Ambassador program has a shared Google Drive managed by a small group of 5-8 Ambassadors with administrator access.

What's been tried before

- The Ambassadors and Deep Funding have managed their own channels on Telegram, but are beholden to the SingularityNET administrators on Discord.
- Ambassadors have a Google Drive and Google server / Google Apps with multiple owners and sysadmin access.
- The Foundation used Slack for some years, and moved to Mattermost to provide greater access for the community. In practice, this has been slow and not well publicized owing to other priorities, but a completely open public Mattermost is to be established.

Challenges

- Administrators have power over the communications networks and there is no transparency about who is excluded (if such a thing happens).
- All the responsibility for banning falls upon the administrators. Therefore, if someone violates the code of conduct, there is technically one person who has to be the "bad guy".
- Community members don't have access to Foundation Mattermost channels unless invited. There is a plan to make an open and public Mattermost account, but how much of the Foundation's work will be on that channel is yet to be seen.
- Only Foundation members have @singularitynet.io email addresses and access to internal devops services
- Shared documentation that is on Google Apps is always owned by a particular person and the public can't see who the owner is. That owner could make the documents invisible.
- Even SingularityNET official documents on the official Google Apps server of the company are under administration by the DevOps department.
- The use of centralized technologies are also a source of vulnerability from technical, legal, and security standpoints.
- Where paid accounts are required, there is no public documentation of who pays or who started the account.

- There is no formal or documented handoff or succession for any of these systems or servers.
- Discord, Google, and Twitter have banned certain content and certain content creators, so the server could technically be shut down if there were appeals from US courts, or if Discord decided not to host Web3, etc.

Decentralization measures or outcomes

- Multiple administrators for communications channels.
- Clear processes for channel moderation and the requirement to report on people who are banned. The list of banned addresses can be restricted, but there should be at least some representative committee who can check that the rights are not being abused.
- Appeals process with rotating people making decisions about banning appeals.
- Every person who disagrees with a ban from a server is given the right to appeal.
- Co-management of DevOps, or the management distributed to the relevant entities.
- Joint decision making about tools and subscriptions accessible to different entities within the ecosystem.
- Coordination of tools where appropriate with cross-silo teams working together on coordinated strategies for moderation and management of the communications and IT infrastructure.
- Auto-setup in all channels and with all IT rights when someone is elected, funded through the grants program, or passes the Onboarding stages to become an official member of Ambassador Program or other entities.
- Transparency of onboarding and offboarding processes.

Ideas for SingularityNET

- Clear documentation of all the existing channels and their administrators and administrative rights.
- Emphasis on expected deliverables (article,markdown text,etc.) that can be reused on different platforms to reduce the need to organize material in storage applications and instead rely on database and code repositories.
- Sortition for appeals process.
- Backup administrator implementation.
- Documentation of who has access to keys, and what happens in the case that person cannot perform duties. Similar documentation regarding payment for paid channels.
- Succession planning for administration of all comms channels.
- Creation of a co-managed top-level-domain for active community participants who want an email, and for the joint ownership of Google Apps relevant to the community.
- Development of solutions for co-administration of communications channels (layers on top of existing administration consoles).

Existing tools or models

One of the major obstacles to decentralization of communications is that all of the systems assume one super-administrator and/or one person who is paying the bill for the service. We do not know of systems to date that allow for effective co-administration in a way that there is no “super administrator” who can delete content and ban users as well as shut down the whole service.

- Emergent Commons has developed an elaborate co-moderation process, but they are still limited by the centralized structure of the Mighty Networks platform in terms of ownership (there is one God-mode person who could shut the whole thing down).
- Mewsfeed: a Holochain-based microblogging platform, like Twitter..
- AD4M.dev: a framework for building distributed social spaces which replaces the concept of apps.
- Push Protocol: a communication layer for Web3, using that allows any dApp, smart contracts or backend to send any real time communications tied directly to a user's wallet address.
- Retroshare: a free and open source decentralized social sharing network with no dependencies on any corporate system or central servers that allows encrypted communication.

Task / Project Management

Project management is the collection of tools and techniques to complete defined objectives within given parameters. Usually projects have scope, time, and budget constraints and may involve managing a team or set of resources Generally, as organizations grow, specific project manager roles are defined.

Artifacts

- Softwares such as GoogleSuite, Asana, Swarm Treasury System, etc. Every team decides how they will manage tasks and which platforms to use.

Current setup

Foundation

Different teams use different methods. Marketing team tried Asana and now uses Clickup to coordinate writing, graphic and video production tasks. Some teams use Google docs. Each team internally sets its own tasks.

Ambassadors

Projects are initiated and developed in guilds or as workgroups. Each workgroup sets its own tasks, based on the budget allocation which is done through consensus.
Most workgroups use Dework to manage tasks, but every team can use their own method to report to the Ambassador Treasury Guild. Contributions are rewarded through the Swarm

Treasury System.

Deep Funding

Developing a new and evolving circle system.

What's been tried before

Some teams tried to use CMS Confluence, but were unable to get full buy-in from everyone and enthusiasm tailed off. This pattern repeats from time to time: someone enthusiastically finds a tool, but they do not achieve good momentum in its uptake.

Challenges

- It is difficult to choose an appropriate set of tools to use given changes in the tools available, pricing, changing team sizes and project scopes.
- Knowledge transfer and knowledge management is made more difficult by the mixture of tools used.
- There is increased siloing as the number of platforms used in the ecosystem increases to manage work.

Decentralization measures or outcomes

There is some disagreement among the Supervisory Council about whether task management should be decentralized at all. This section reflects that disagreement.

Some oversight and quality control is necessary for task management, which requires some level of centralization. Task management is one of the main sticking points of decentralization for many DAOs because many tasks cannot be automated. Therefore, some number of accountability measures must be in place, whose processes can be defined in a decentralized manner, such as many of the Ambassador Program's guilds and work groups do.

Ideas for SingularityNET

- Integration of reporting functions with strategy and RFP writing, so that there are clear outcomes and KPIs at the start of each process and follow up measures.

Existing Models and Tools

- Charmverse
- Sobol
- Clarity
- DeWork
- Kleoverse
- HyphaDAO
- 0xStation

Reputation and Credentialing

Reputation and credentialing aims to provide signals about the trustability, expertise, and context that different participants in the network have. Reputation signals, in turn, can reduce or eliminate the need for trusting the other party in contracting, allocating governance power, and defining access and permissions.

Issuance of credentials and reputation is separate from the interpretation of those credentials (issuance of reputation score). Many reputation systems today interpret data from multiple sources (off-chain and on-chain) in order to provide a level of confidence regarding a wallet's or user ID's trustworthiness.

Artifacts

- Photrek data
- Dework data
- Transaction histories

Current setup

The reputation systems currently in place predominantly recognize the amount of time spent engaging in the community as a reputation. In other words, the people who spend the most time within the community are considered to have the best reputation. This does not recognize the quality of work or provide differentiation for abilities in different domains.

Deep Funding

Photrek, a software development agency, has been contracted to develop and host a system that gathers data from Deep Funding voting platform and analyzes it to provide a reputation score based on engagement in the voting platform.

This reputation score is then used to modify the voting weight in Deep Funding votes.
The Deep Funding team defines and governs this system through the creation of RFPs in Deep Funding. Hosting and managing of the system is currently done by Photrek.

Ambassadors

The Ambassadors define and govern their reputation system autonomously.

Tasks completed using the tool Dework lead to the accumulation of Task Points signaling the number of hours worked. A minimum of 12 hours of participation in the program and 6 hours in completed tasks gives contributors the right to claim the Core Contributor role in the Ambassadors. Core Contributor roles give you the power to make proposals, suggest changes, and vote for governance structures and funding allocations with a 1 person 1 vote system

Currently, Ambassadors are experimenting with a consent process that has a program-wide impact or changes in treasury parameters.

What's been tried before

- Calculation of reputation based on behavior in the previous voting platform.

Challenges

- Reputation based on time invested over-values people who have a lot of time on their hands and undervalues the highest quality experts with demands on their time.
- Experts with very specific expertise who give high-quality inputs are not recognized for the quality of their input.
- Centralization of power risk. As reputation accrues to those with the most time, they get more weight on voting rounds, and this can mean they vote for their own proposals, which creates the next round of accrual of more voting weight.
- Difficulty of new members to accrue as much reputational power as those who have been accruing reputation over time.
- Reputation based on time does not reflect what most people "feel" about reputation.
- Limited research around reputation scores and the matching of reputation algorithms to use cases (interpretations).
- Limited data collection for the generation of reputation.
- Reputation engines hosted by profit-oriented 3rd party organizations using Web2 infrastructure (capture risks).
- Reputation issued by one unit of SNET is not recognized by other units in the ecosystem.
- Reputation is seen as one score, rather than different domains. One person might be excellent as a marketer but not excellent as a developer, and there is no differentiation.
- No separation between reputation issuance and reputation interpretation.
- Reputation score is recognized as "one thing" rather than contextual. The type of trust to give people voting rights is different from the amount of trust needed to give someone rights to issue a budget or approve payment.

Decentralization measures or outcomes

- Multiple reputation issuance criteria are used to assess people's capabilities.
- Reputation issuance is separate from reputation interpretation.
- Different reputation interpretation engines are available for different purposes. With Context, Expertise, Engagement, Track Record, and Incentive Alignment clearly differentiated and used appropriately.
- The reputation engines are capture resistant.
- Decisions about which reputation criteria to use and how it is evaluated is determined by an SNET committee representative of the ecosystem.

Ideas for SingularityNET

- Credentialing systems that provide qualitative reviews of proposals as well as qualitative review of deliveries.
- Elected or assigned quality assurance teams that provide feedback and reputation scores to proposal deliveries.
- Rotating responsibilities for reviewing delivery of funded proposals. This could be part of any role. (For example, all Ambassadors review at least 2 proposals per round.)
- Blind multiple reviewers (instead of discussing among themselves, the reviewers don't know who else is providing a review)
- Anonymous review, so reviewers don't have "consequences" of being disliked by giving negative reviews.
- Peer-to-peer assessment of work within Ambassador and other types of programs
- Objective review criteria / AI reviewer
- Expanding information included in existing reputation, for example, if a proposal doesn't win but does get a lot of votes, that is a signal
- Group-to-group credentialing programs
- Reputation interpretation that takes into account multiple inputs
- Multi-platform data collection for issuing of Context Scores

Existing tools or models

- TogetherCrew: Reputation NFTs
- Collab.Land: Reputation NFTs and community management
- Sourcecred
- Analytics on on-chain activity, all-time earnings, etc.
- Disco.xyz and other credentialing systems
- Non-transferrable tokens / PoAPs / other types of NFTs for reputation
- Gitcoin Passport
- Personal references
- Peer-to-peer and 360 review processes
- Portfolio of work
- Neural Governance
- Quorum Delegation
- Reputation certification system description
- Trust Graphs

Operations

Community building and onboarding

The community can be defined as:

1. People interested in the SingularityNET ecosystem who have not yet been onboarded as members
2. Stakeholders
3. A network of relationships and shared identity

The first definition requires processes to attract people to move from the general community of interest to members. The second and third require processes to keep members engaged.

Onboarding is the process through which members join the network and become participating stakeholders. Once onboarded, participants can take a very wide spectrum of engagement from the very passive, to becoming full time active participants engaging in important system operations.

Therefore, we have combined community building and onboarding due to the amount of overlap between them in developing practices to improve and enhance both.

Artifacts

- Roles and membership requirements definitions
- The Ambassadors program
- Dework for Ambassador's work
- SingularityNET Foundation's marketing department
- SingularityNET Foundation's human resources department
- Deep Funding for onboarding builders

Current Setup

Tokenholders

Token holders with AGIX as part of a larger portfolio in a wallet or exchange are the most peripheral of community members. We will consider these users at the edge of the onboarding process and with the potential to move in deeper with the right operational formats.

The more deeply engaged of these members will consume the information provided by the marketing function on platforms such as X, YouTube, Medium and LinkedIn where they can stay up to date with the developments of the network by reading the outputs there. Consequently, these are important sites for deepening engagement and can be considered a crucial part of the onboarding and community building operations.

Ambassador program

The Ambassador Program was created in 2022 by self organizing, active token holders to build community and expand the reach of SingularityNET. It has built a wide range of decentralized processes for onboarding new participants with the goal of bringing them into SingularityNET to do productive work.

The group is self organized into working groups and guilds with their own leaders, agendas, and internal structure and collaborate when needed.

The Ambassador Program has formalized membership:

- Workgroups require a certain amount of work to be considered a member.
- Workgroups have formal team leads.
- Individuals who participate regularly are considered members of the Ambassador program.
- People who do bounty-based tasks are also provided the same levels of membership based on doing work for the program.
- Anyone is welcome to join the ambassador program.
- Formal members of workgroups display their status on the SingularityNET Discord channel.

The Ambassadors have an onboarding process separate from Deep Funding or the Foundation, which is managed by the Onboarding Workgroup. Each WG and guild determines their process, membership requirements, and method of payment (Usually AGIX, GIMBAL, MINUTES, and soon ASI tokens.). The AGIX tokens are allocated and distributed via the Supervisory Council to the Ambassador program in accordance with Phase 2 token allocation (0.5% of the newly minted token supply).

Deep Funding

Launched in mid-2022 the Deep Funding platform is designed to facilitate the onboarding of builders to the network through a series of funding rounds (the Round 4 starts 22 April - 23 June 2024) as well as weekly Town Hall meetings.

SingularityNET has dedicated considerable resources to attracting builders to the network through this open grants system curated on the Deep Funding platform, which has its own treasury but is still distributed through the Foundation.

The Deep Funding program operates in a decentralized manner and self-organizes in a ‘Circles’ holacracy like structure, which is considered the deepest level of engagement in this program. You can see the Circles Common Operations Guide here.

Deep Funding has three rails within its onboarding flow:

1. The wider tokenholder community who participate as voting members for proposals to Deep Funding and in the Town Halls

2. A subsection of the community identified as the ‘community of builders’ including, but not necessarily limited to, team members awarded funding by Deep Funding. The word “builders” is used in a very general sense, as many of the funded projects are not actually building products, but in areas such as community building, marketing, and research.
3. Operational ‘Circles’; a subset of the community that is directly involved in governance and operations.

Not everyone is intended to be onboarded to all three rails. There is no formal sequence that takes contributors from being a voting member to awarded team member to circle member; they are three separate groups. (Though it is possible to move through all three if desired.)

Onboarding is often done via Deep Funding town Halls.Several Town Hall events are hosted to teach people best practices for proposal writing and give tips on how to increase chances of getting awarded. Deep Funding has step-by-step guides on how to submit a proposal on the platform and how to vote.

Foundation

The Foundation’s permanent roles within the ecosystem can be considered core members. Attainment and retention of these members is managed through the human resources department and is the mechanism by which long term development goals are achieved.

It should be noted that high achieving or high value ambassadors or builders can be offered a permanent role in the Foundation, which to date has resulted in a flow towards centralization, because the offer of a regular income flow is generally preferable to the uncertainty of participating in the other programs.

The Supervisory Council

The Supervisory Council is an elected body by token holders who rarely move into non-token-related governance such as the Supervisory Council elections or Deep Funding proposal selection.

There were no formal onboarding processes in place when the Supervisory Council was elected. Please see the appendix for a scaffolding framework for elected bodies. We recommend putting a framework like this in place before electing any further bodies.

What’s been tried before

- Ambassadors onboard people with the trajectory of getting them to Deep Funding program
- Work-based membership / status
- International programs (recruiting in different geographies)

- Increasing the amount of funding in each subsequent Deep Funding round to grow community participation has resulted in a significant increase in proposals each round.
- Deep Funding Academy was developed using the Andamio platform to provide educational content and create educational content bottom-up from the community.
- Funding of projects that are for skills other than AI development, to encourage the expansion of the community.
- Retroactive funding of activities (weekly or monthly calculations and requests for funding for participants that the organization would like to "stick around".
- Manual outreach to bring in candidates for the Supervisory Council.

Challenges

- Lack of definition of who should be onboarded.
- Some processes are directionally towards centralization rather than decentralization (the goal is to get hired by the Foundation rather than to move from the Foundation into the Deep Funding and Ambassador entities)
- People onboard people like themselves rather than create a more diverse pool of members.
- Lack of AI developers within the Ambassador and Deep Funding groups which limits the ability to go "Up" in the level of involvement.
- Lack of creation of unified tooling for self-organization.
- Because of low rates/ expectation of volunteering, retention of members is difficult.
- No explicit time limits of people elected to positions.
- Processes and procedures are not mature enough to accommodate many new contributors.
- Limited treasury increases competition for compensation as the community grows; could reduce incentives to expand.
- Non-transferrable role recognition, so if someone has a role in one area of the ecosystem, they don't necessarily carry that "membership" or recognition with them.

AI Marketplace

- Poor UX on AI marketplace, depending on a small centralized team, means that some Deep Funding projects never list there.
- Limited developer availability means that progress on improving the platform UX may be slow, and therefore making headway on growing the community could also be affected.
- Membership in the AI marketplace is not recognized by any of the other programs or considered a way of "onboarding".
- Lack of community sense of ownership of the marketplace.

Decentralization measures or outcomes

- Number of program participants with roles increases.
- The ambassador population grows.

- The number of stakeholders earning consistently on productive tasks for the network increases.
- The number of long term workers e.g. on regular monthly salaries hired by a DAO structure rather than the foundation increases.
- People and projects who receive money from Deep Funding are supported by the community directly because there is better alignment.
- Increase in the number of Deep Funding proposals that are original AI ideas aligned with internal and external R&D objectives (not just copycats of existing things).
- Increase in percentage of AI developers participating in the community areas.
- Clear membership definitions for the community.

Ideas for SingularityNET

- If the flow of resources (people and ideas) is primarily from Deep Funding and Ambassadors to the Foundation, determine a way to reverse that flow to have Foundation members or staff move into Deep Funding and Ambassadors either in a cyclical way or for a period as part of onboarding to the Foundation, for example.
- Further levels of engagement amongst token holders can be found using the SingularityNET token tools, which include smart contracts for users to stake their tokens and bridge them between the Cardano and Ethereum blockchains.
- (In early stage ideation) A Mentorship program to pair up a new community member with a seasoned SNET community member to teach them beyond what the onboarding workgroup does.
- (Currently in development) The Ambassador's Education Guild is designing an internal training program (Andamio) to ensure quality and consistent representation of SNET and consistent knowledge of how to use SNET tools and participate.The Education Guild would be in charge of adding to and improving it with the feedback from the community in mind, as well as their own ideas.

Existing tools or models

- TogetherCrew's Hivemind for AI-powered Q&A for new and old members
- Hylo: Prosocial Coordination for Purpose-Driven Groups
- Collab.Land
- GOSH
- Legislative Theater
- Hats protocol
- DeWork
- Verifiable Credentials and other ways to signify membership

Developer relations

The developer relations function supports developers on a technology platform. For the SingularityNET platform, this would include everything from helping developers get funded

(either with their own ideas or through proposals that need developers), providing developer support in using SingularityNET's tools and platforms, providing resources, and helping them find funders and investors. Developer relations ideally result in a developer community that has a long-term commitment to using the SingularityNET's tools and technology.

Artifacts

- Deep Funding Developer Relations Campaign
- Deep Funding strategy
- Online tech support forums
- Wikis and technical documentation for developers

Current setup

Currently there is no formal developer relations program.

In Deep Funding, there is a current funded proposal to produce a Developer Relations Campaign.

What's been tried before

No decentralization experiments have been tried.

Challenges

- Developers struggle with some of the SingularityNET tools; support is handled as needed by the DF team and Foundation technical teams.
- The marketplace is difficult to use and there is no formal help process.
- Developers are not obligated to use any SingularityNET tools, even when they are funded through Deep Funding or other grant mechanisms.
- Many of the developers in DF simply don't use any of the SingularityNET tools.
- After delivering tools based on their DF grants, developers usually take their projects elsewhere and do not stay part of the community.
- Developers are not involved in any of the other activities in the SingularityNET community.
- Community members who could help, such as Ambassadors, have no track for leveling their skills up to provide developer support.
- Developers are not given incentives to help one another, and the competitive nature of the Deep Funding rounds could potentially de-incentivize collaboration (although we don't see evidence of this).

Decentralization measures or outcomes

- Increasing numbers of developers are helping onboard others.
- A path for becoming a Developer Support person is open to any community member who wants to contribute.

- Documentation for developer support is managed in a wiki-type system where anyone can contribute and there is a screening mechanism with a group of moderators.
- Reputation system is implemented for developer support people (meritocracy).
- The developers themselves are able to put in requests for how they want the system to evolve, and the community is able to get grant funding to implement these changes.
- Peer-to-peer support is the norm.
- Developer support team or workgroup, paid professionals, composed of people who came up through the community, and who maintain their position based on community consensus.

Ideas for SingularityNET

- Co-development of a support platform including Deep Funding, Foundation and community members.
- Developer management roles, rewards and contests for excellence in customer support.
- Training up Ambassadors or others who are interested in providing customer support marketing,
- Funding for a developer support workgroup.
- Success-based payment models for community members providing support.
- Inclusion of support roles for DF winners who are already proving mastery in their use of SingularityNET tools.
- Mentorship programs.
- Hackathon rewards in existing hackathons.

Existing tools or models

- Valued professional and certified expert programs, where in return for providing developer support, experts get free access to SingularityNET resources and a certification they can use to validate their business.
- Developer relations manager roles: decentralized group for contracting or election process.
- Coordinape - a retroactive model for payment.

Marketing

Marketing is the promotion or selling of products or services, including market research and advertising. It can be done through formal marketing departments, or informally through user adoption. Marketing is a key component of any growth strategy.

Artifacts

- The Foundation's marketing department
- The Ambassadors program

- Websites and social media accounts of the SNET bodies

Current setup

The Foundation

The Foundation has a marketing team that provides services to the ecosystem. Other entities in the ecosystem can provide guest posts for the main blog. The marketing team posts regular updates about the other entities in the ecosystem. They do not have to ask permission or get approval from any other entity before publishing content about those entities.

There is a process for approvals, but the Foundation is not bound by it. In practice, there usually is syncing on the information. Ultimately, the Foundation has the last say on anything being published on the SingularityNET website.

The Ambassadors program

The Ambassadors program has a Marketing Guild, Writer's Workgroup and Video Workgroup who are creating and putting out content to promote the SingularityNET ecosystem as well as the Ambassador Program itself. When we started the mandate as Supervisory Council, the Ambassadors had not aligned with the marketing department and were operating completely independently. At the time of writing, a preliminary cooperation is being started where the Ambassadors are working to align with the goals and needs of the Foundation's marketing department. This is a major improvement in coordination.
The Ambassador program has a smaller budget to work with than the Foundation's marketing department. Unlike the marketing department, they don't recruit people for marketing roles, but are staffed by the people who have joined the program voluntarily from the public.

Deep Funding

Deep Funding has a Marketing Circle which rotates members every 6-12 months to give more community members the chance to be part of the circle. The Marketing Circle is responsible for all communication on Deep Funding's social media channels, Deep Funding's website as well as Deep Funding related posts on SingularityNET's Discord and Telegram channels. The Deep Funding Marketing Circle is working with members of SingularityNET's marketing team to align on updates around the Deep Funding program and upcoming rounds. Deep Funding Town Halls get announced on SingularityNET's main X account.

The Supervisory Council

For recruitment and marketing around the Supervisory Council, the Foundation employs a Decentralization Lead, who spearheaded the work in recruiting candidates for the Supervisory Council. Marketing was done through the Foundation's marketing department,

and marketing directly to the community was done through a community liaison hired by the council. A website specific to the SC was written by the Supervisory Council, and oversight of programming and design was the Decentralization Lead, who continues to maintain the site after the completion of the mandate.

What's been tried before

- Complete independence of the Ambassador program. The problem with this arrangement is that there was no mutual cross-posting, no alignment on style, and no accountability in terms of meeting KPIs that are important to the network as a whole.
- Current effort: Website coordination between Deep Funding, Ambassadors, and the Supervisory Council, where we have separate websites but all using the same template and resources. This is being launched as this blueprint is being released.
- During the writing of the blueprint, the Ambassadors and Foundation marketing department began to collaborate on an initiative to align their departments.

Challenges

- Centralized decision-making about KPIs and marketing objectives.
- The Foundation's objectives are opaque to the community.
- Difficulty in overcoming centralization for issues where confidentiality is an issue or where early leaks could have strategic, compliance, or legal implications.
- Silos across the organization.
- Lack of clear objectives for the Ambassador marketing wing.
- Lack of accountability of the Foundation marketing department to the community.
- Lack of integration between marketing activities to the other community entities (recruiting people for Deep Funding, Ambassadors, Supervisory Council).
- Nominal community growth in terms of active users.
- Strategy is unclear.
- No brand guidelines exist to be shared across the platform site.
- No clear way to get services by other entities.
- Discomfort with the way that Ambassadors are paid for their work (concern they are seen as cheap labor).
- Lack of respect for Ambassador marketing work (feeling they are doing work that doesn't produce results).

Decentralization measures or outcomes

- Results-based marketing bounties and rewards are distributed based on work done anywhere in the SingularityNET ecosystem.
- Marketing budget distribution is based on the prior results of the entities doing marketing work.
- Information is cross-shared on social media.
- Increased numbers of people are able to participate in marketing activities.
- RFPs for marketing services are decided upon by the community.
- There is community oversight of marketing activity.

Ideas for SingularityNET

- Hold quarterly strategic sessions open to public ideation.
- Create specific DAO funding allocation for marketing bids and ideas.
- Create a community outreach program as a specialized program within the Ambassador's program.
- Have initiatives be co-budgeted and co-funded with decentralized arms.
- Allow different ecosystem entities to propose marketing activities and compete in a voting round.
- Create more freedom to use analytic tools to design new marketing initiatives.
- Allow more pilots to be run with smaller initial trial sums of funding.
- Move marketing tasks onto platforms such as Dework so anyone who is qualified from the community to take on marketing tasks.

Existing tools or models

- Funding an SNET DAO
- Colony.io
- Loomio

Strategy (Units level)

The strategy function at the unit level seeks to align each department and body's expertise with the organization's Why in order to move forward the organization's goals.

Who has the power to approve or veto strategy decisions is key to any conversation about decentralizing.

Defining strategies at the unit level to achieve an organization's mission requires intellectual vigor in order to stay on track and allow the group to be reflexive as conditions evolve.

Artifacts

- KPIs
- Guiding Why
- Strategic Initiative documents or documentation

Current setup

Foundation

Centralized strategy development has been the model for developing the ecosystem, as the mission has been an expression of the interest in funding Dr. Ben Goertzel's ideas because

a community of funders and supporters agree with his vision of beneficial AGI. Therefore, the charismatic leader model has led to strategy being designed in very centralized ways.

An example of this is the recent token merger announcement that explained the strategic importance of partnering with Fetch.ai and Ocean Protocol to meet SingularityNET's mission faster. The three organizations have complementary strengths that also create growth opportunities for each through partnering, according to SingularityNET's public declarations. However, the alignment, risk evaluation, and merger conversations were all done in a centralized manner with a public statement being released after the decision had been made to move forward with a token merge.

Deep Funding

The strategy and actions defined to reach Deep Funding's goals are decided by the Deep Funding internal team autonomously. The team is composed of the Chief Deep Funding Officer and the Deep Funding Manager of Operations, both employees contracted by the Foundation.

Ambassadors

In the Ambassador Program each Workgroup and Guild has their own organic process to internally define their strategy of operations and onboarding goals. Strategy of the overall Program is furthermore defined in the Strategy Guild and Governance Workgroup and discussed in Town Hall and Core Contributor meetings.

What's been tried before

To date, activities of the units have been ad-hoc.
Strategy sometimes comes up in Town Halls.

Challenges

- Units are not required to make any strategy.
- Strategies do not have to align with the core mission of SNET.
- There are no checks and balances among the units.

Decentralization measures or outcomes

- Checks and balances where different units in the Ecosystem are able to call one another to account to maintain the integrity of following the organizational values when setting strategy. This could come with enforcement or the ability to revoke funding if units are not in alignment.

Ideas for SingularityNET

- Implementing a futarchy model for major decision making whereby different markets are created to model future scenarios and whichever market does better is how the decision is made.

- Creating a checks and balances model where ongoing funding is contingent on approval from the other units that the strategy is in alignment with the overall goals of SNET

Existing tools or models

- Checks and balances
- Consultations
- Sociocracy
- Futarchy
- Legislative Theater

Budget Allocation (Units level)

Allocation of financial resources to fund operations and other initiatives within the Units (Deep Funding, Foundation, etc).

Budget Allocation includes:

- Prioritization: Deciding what to fund for the coming year/quarter based on strategy.
- Definition of objectives and KPIs: Deciding how to measure success.
- Problem definition leading to the creation of the Requests for Proposals or Grant Rounds.
- Ideation and formulation of solutions, including discussion of proposals and ideas.
- Creation of the criteria for eligibility for funding including job descriptions for hires, application forms for submissions, reputation systems.
- Formal proposal submissions.
- Creation of the selection criteria such as consent, expert selection, consensus, weighted or quadratic voting, ranked or yes/no voting.
- Delegation to experts as in elected or appointed committees.
- Supervision of deliveries and milestones for funded activities.
- Issuance of reputation based on delivery and milestones for funded activities (covered in the section on Coordination).
- Documentation of any of the stages set out above.
- Choosing technology for the stages set out above.

Artifacts

- Deep Funding platform current and historical proposals
- Swae history
- Budget application processes
- Decision making and approval processes
- Budgeting / Treasury rules (e.g. in Ambassador program Gitbook)
- Token holding wallets
- Wallet signatories and permissions

Current setup

Foundation

In the past, the budget was determined by the CFO and CEO and was based on an assessment of the token price and market movement.

As of 2023, the Foundation has a team of 12 managers who approve the budget allocation in a participatory process.

Ambassador Program

The Ambassadors decide amongst themselves, primarily through the Treasury Guild on Discord, how those tokens are distributed and utilized.

Workgroups and guilds create their own quarterly budget proposals, which are consented (or not) by the group of core contributors.

Deep Funding

Initially the total budget and pool amounts are defined by the Foundation's Internal Deep Funding team. Each round has seen an increase in budgets offered to the community to compete to deliver new projects. (A smaller test round to trial the new portal was conducted in Q1 of 2024.)

Proposal screening is done by a group from the community selected by the coordinators of the Review Circle to make sure they fit with the DF criteria.

The Foundation develops Request For Proposals (RFPs) or oversees and funds third parties selected by them to define said RFPs.

The community votes on which projects to fund using the voting portal, currently using a form of quadratic voting and a rating scale.

Circles structured teams from the community perform marketing and assessment functions within Deep Funding, overseeing completion of milestones and greenlighting release of funds by the Foundation.

The Foundation serves as the contracting party and manages compliance.

Supervisory Council and Task Force

The Supervisory Council budget was pre-determined by the Foundation.

The Foundation created an open discussion with the community on the Swarm.ai platform along with a series of live discussions during Town Halls to gather community input about the role of the Supervisory Council and Task Force.

After these discussions, the Foundation formulated the call for applicants and determined a budget for the Supervisory Council and Taskforce.

The Foundation was in control of the election process for the Supervisory Council. It created the application forms for the Supervisory Council and Task Force positions. It determined how voting would be weighted and provided a 1-5 rating system where all token holders could vote. The voting was token-weighted and the calculation of the winners was opaque.

Within the pre-allocated budget, the three members of the Supervisory Council can allocate funds for Task Force members, for themselves, and for other external costs subject to the consent of the Foundation representatives to the Task Force (5 Foundation employees pre-assigned to the Task Force, 3 Elected Supervisory Council members, and up to an additional 4 Task Force participants who are chosen by the Supervisory Council).

What's been tried before

Deep Funding has gone through multiple iterations and experiments with how to solicit proposals, allocate funds, and provide oversight for delivery of the projects.

- Giving specific functions (like naming of conferences, marketing functions) to circles within Deep Funding.
- Circles structure (still in beginning stages)
- Focus Group for consultation on various aspects of Deep Funding
- Swarm platform (in transition to new platform)
- Reputation systems

Several initiatives are currently under consideration, including having Ambassadors provide assessment of delivery functions for Deep Funding.

Challenges

- Centralized power determines budgets for each of the sub-categories. Decentralization is happening within the Ambassadors and DF, but the overall budget is determined centrally by the Foundation.
- Different definitions of what "decentralization" means, and disappointment of the community for lack of full control.
- There are significant gaps in communication because of power dynamics.
- The Ambassador program budget fluctuates without a clear understanding of the criteria for receiving more or less funding.
- Deep Funding budget allocation is highly dependent on a hierarchical structure of critical decisions and there is low voting participation (~100 wallets, most likely competing teams are voting amongst themselves).
- Elections:
    - When there are council elections, the call for candidates is determined by the Foundation and there is no requirement that it reflect the community discussions.
    - The way that ranked voting is calculated isn't always transparent.
    - People are required to spend a lot of time reviewing proposals in DF, but they aren't rewarded for their time.
- Recursive issue: The types of people in the funding programs recruit other people like them, so there is a lack of diversity, and specifically a lack of AI specialists.
- Prioritization of what to fund has no formal process associated with it, although it is done in consultation with the community.

- Even within the Foundation, there are specific people with the majority of the power because it is their paid job. Others who are doing this as volunteers, contractors, or hopefuls to get funding simply can't invest the time.
- Technology developed by the Ambassadors for compensation is not used by other entities despite its awesomeness.
- Inadequate project oversight. In the past, the Foundation assessed the submitted projects, but this is too much overhead for the foundation.
- Conflicts of interest could develop among entities, and between different groups vying for funds from the grants programs.
- Within the Ambassador program, the limited amount of funding creates a perverse incentive for existing members to resist expanding the membership.
- Bespoke tooling is centrally developed by the Foundation, with recommendations from the community. Community and actual voters don't have oversight into the code.
- Communications are fragmented: Discord, Mattermost, and Telegram are used by different subgroups of the community.
- The Foundation controls the wallets of DeepFunding and the SupervisoryCouncil, with the ability to micromanage funds, though generally there are few guidelines on how the funds should be used.

Decentralization measures or outcomes:

This and the following section are broken down according to the sub-categories of activities under funding.

General

- Higher amounts of funding are distributed through decentralized processes.
- Larger percentage of total Foundation funding is distributed through decentralized processes.
- Full-time functions are funded through decentralized processes more frequently than through Foundation.
- Functionality of the Foundation moves to bodies that are funded through decentralized funding processes.
- In addition to the Foundation, other bodies (such as spin-offs and partners) use the decentralized funding mechanisms for their needs.
- Tooling and decentralized processes that are used in SingularityNET are forked or used as blueprints/templates for other decentralized organizations.
- Open source tooling or tools developed with transparency to the community.

Strategy and prioritization

- Inputs to the strategy process are transparent (documentation of considerations).
- Representatives from organizations other than the Foundation are able to influence priorities and strategies for budgeting.
- Increasing percentages (in budgetary terms) of the execution of the core strategies is performed by entities outside of the Foundation.

Definition of objectives and Key Performance Indicators (KPIs)

- Transparency among SingularityNET participants regarding their KPIs and accountability.
- KPIs are determined by the different stakeholders (with a larger percentage of participants or their representative).
- Different entities within the network receive input and oversight from other entities for setting and performing KPIs.
- Objectives are reached by different network players in different ways.
- The KPIs reflect market needs as shown by adoption of services or products created by the ecosystem.

Problem definition

- RFPs or problem definition documents transparently reflect the community's discussions.
- Consensus mechanisms are in place to represent different interests.
- Conflicts of interest are openly discussed and mitigated.
- Pol.is
- Remesh
- Decidem
- Decide Madrid
- Loomio
- Consider.it
- Stanford Online Deliberation Platform

Ideation and formulation of solutions

- Outlying ideas are considered seriously and even occasionally win over the default ideas.
- Ideas from people outside of the "inner circle" of regular contributors are recognized / proposals from "outsiders" are ranked for merit.
- Pol.is
- Remesh
- Decidem
- Decide Madrid
- Loomio
- Consider.it
- Stanford Online Deliberation Platform

Discussion of proposals and ideas

- Teams form around proposals rather than "every man for himself".
- Proposals improve from the ideation phase to the final phase.
- Devil's advocates and people providing constructive criticism are recognized for their contribution
- People who contribute to the improvement of proposals are rewarded

- Recognition is given for the efforts in developing proposals for the finalists, even if they do not win the contract
- Rewards for people who spend large amounts of time contributing to proposal review and discussion.

Creation of the criteria for eligibility for funding / creating selection criteria

- People representing different parts of SingularityNET help create the criteria for funding and selection of the best proposal.
- People who have been funded in the past stay on as part of SingularityNET after completing the project.
- Funding eligibility criteria are ratified by the SingularityNET community.
- Different selection criteria are tried and assessed for their effectiveness (different types of ranked voting, expert committees, etc.).
- Oversight by an independent ethics and safety body with enforcement abilities to prevent funding of projects that don't meet ethics and safety requirements, or other checks and balances.

Formal proposal submissions

- Proposals come from an increasing pool of participants.
- Every round has a determined percentage of new people making proposals.
- Existing proposal winners assist newcomers in creating winning proposals.

Delegation to experts

- Elected delegations and councils have authority based on the bodies who chose to elect them.
- Expert committees are a result of collaboration between more than one SingularityNET member organization.
- Knowledge from one expert committee is used by more than one SingularityNET partner.

Selection (voting) on proposals

- Voter participation is at least 4X the number of proposals.

Supervision of deliveries and milestones for funded activities

- For every RFP that is released, a procedure for supervision is defined and the assessors have no conflict of interest.
- Anyone in SingularityNET can apply to be part of the supervision of deliverables, and the criteria of acceptance are fair and based on merit.
- The supervision group represents different people from the SingularityNET ecosystem.
- There is a dashboard for managing the submission of milestones and review of projects with easy-to-use UI for recognizing what was and wasn't reviewed and how it went.

- There is a waiting list for people who want to be supervisors and are qualified to be them (good rotation for decentralized knowledge).

Ideas for SingularityNET

Strategy and prioritization

- Proposal making with ranked voting for top priorities; budget could be weighted based on the popularity of the priorities.
- Representatives of each body in SingularityNET meet annually for a facilitated discussion (see Strategy section in this specification Grace wrote for another client).
- Use Pol.is or other consensus-reaching technology.
- Use co-budgeting - no strategy, but based on whether something gets budgeted, it becomes prioritized. Colony.io and cobudget use these models.

Budget allocation based on the strategy and prioritization

See Treasury Management

Definition of objectives and KPIs

See Accountability and Strategy

Problem definition

- Community driven RFP. Current proposal by Jan for RFP process improvement:
- Proposal by Ben that the spinoff projects be involved in making RFPs for their needs.
- Focus group elections or expansion of focus group
- Forby.io platform for co-development of proposals
- Legislative Theater

Ideation and formulation of solutions

- Forby.io platform for co-development of proposals
- Legislative Theater
- Brainstorming (many methodologies available, this is a favorite)
- Hackathons
- Innovation methodologies (many are available)
- Competitive analysis

Discussion of proposals and ideas

- Sociocracy / circles (already being tried in Deep Funding)
- Adding accountability to Focus group consultation (being used by Deep Funding). Documentation of decision-making, ensuring representative group, ways to make decisions binding
- Expert review circle (being tried in Deep Funding)
- Forby.io platform for co-development of proposals, group chat, and private messaging

- Documentation of commenting process, full transparency and archives regarding what suggestions were accepted, integrated, or ignored
- Expert teams (now being implemented)

Creation of the criteria for eligibility for funding

- Soliciting needs from the spinoff organizations for use DF
- Partnership with other parties, as approved by an elected council or other community representatives
- Ethics and safety committee

Formal proposal submissions

See also Reputation and Credentialing

Creation of the selection criteria

- Sociocracy/circles (already being tried in Deep Funding)

Choosing proposals

- Different types of voting modalities
- Decision-tables
- Adherence to criteria rating (more objective ratings, rather than voting)
- Expert panel
- Retroactive funding
- Tools that allow for multi-criteria weighted voting such as Ethelo

Delegation to experts

- Reputation systems with topical focus (assessment of discussion and responses to determine expertise)
- Election of expert committees
- Sortition of experts based on reaching a “threshold” that determines expertise in specific areas
- Representational or random committees for assessment

Supervision of deliveries and milestones for funded activities.

- Sociocracy/ circles (already being tried in Deep Funding)
- Checks and balances
- Objective measurement
- Committees
- RFP creators required to supervise delivery of milestones
- Funding of quality assurance team
- Testing

Existing tools or models

- Retroactive funding

    - RetroPGF Round 1 | Optimism Docs
    - Elaborating on The Graph Retroactive Grants
- Coordinape
- Cofundit
- Lumio
- pol.is
- Colony
- Realms
- CollabBerry

Spinoffs

Spinoffs from SingularityNET are out of scope for this draft of the blueprint.

AI Ethics and Safety

The moral considerations and ethical implications of developing and using AI technologies and ensuring that AI systems are reliable, secure, and aligned with their intended purpose, without causing unintended harm.

As an area of Operations, the following functions will be relevant:

- Development of AI and AGI tools for safety and security, primarily through Deep Funding.
- Development of AI and AGI infrastructure, primarily through the Foundation and spinoffs.
- Review and certification of products and technologies, primarily through Ambassadors or a communityDAO.
- Ethics reviews, education, and multi-stakeholder input mechanisms for AI, primarily through Ambassadors or a communityDAO.

This initial purpose allows for the maintenance of the existing structures in the SingularityNET ecosystem and also provides a unique contribution to the AI and AGI community as a whole.

Artifacts

- AI Risk management framework

Current Setup

- The Foundation has recently launched the Global AI Ethics Initiative (working title) see Ethics section. This is insufficient as it's not concerned with codifying how SingularityNET will enshrine AI ethics in its own community, per se.

- There is a team developing a Risk Management Framework to guide ethics and safety policy and practice at SingularityNET, but is still in its early stages and has no practical influence at present.

What's been tried before

The aforementioned Global AI Ethics Initiative, though it is not an internal framework for ensuring the beneficial and ethical training necessary for contributors to SingularityNET itself.

Challenges

- Decisions on the ethics of the technology should bring in the widest possible and most diverse possible groups. The organization currently has no setup for that.
- The current SingularityNET marketplace represents AI tooling, as do many of the Deep Funding projects, yet none of them are obligated to align with any ethics committee or proof of safety.
- Setting up secure and controlled development to prevent malicious actors from hijacking or misusing AI systems.
- Developing techniques for maintaining human oversight and control as AI systems become more advanced and autonomous.
- Creating safe and controlled environments for testing and exploring the capabilities of AI systems.

Decentralization measures or outcomes

Many viewpoints are included in the decision making process from within and outside the SingularityNET community.

There are checks and balances to modifying any framework established that minimize the concentration of power in decision making.

Ideas for SNET

- Establish separate bodies responsible for developing, implementing, and monitoring ethical standards and ensure their implementation across different ecosystem elements (e.g. Deep Funding, the AI Marketplace and Platform, the developer teams in OpenCog Hyperon)
- Create open source, living ethics and safety documentation (in line with principles outlined in the Knowledge Management section), which is periodically reviewed by different stakeholder groups
- Establish a schedule for internal monitoring and potentially external auditing
- Set up feedback loops with the Global Ethics Initiative / other means of collaborating with wider communities

- Consider creating a separate fund solely for safety and ethics RnD within Deep Funding, for example to produce AI that mitigates harms from existing or emergent technologies
- Create a SingularityNET ethics and safety certification badge
- Publication of multiple perspectives / dissenting opinions regarding ethics decisions that are made by the different bodies
- See also Professional Learning and Development

Existing tools and models

Existing frameworks:

- National Institute on Standards and Technology (NSIT)
- Institute of Electrical and Electronics Engineers (IEEE)

For collaboration:

- Loomio
- Gitbook

For input from wider stakeholder groups:

- Ethelo

Core R&D Platform Development

The core development of platforms for the ecosystem is done at the Foundation Level. Discussion of R&D and suggestions can also be found in the section Research and development.

Artifacts

There are currently three major platforms under development by the Foundation:

- HyperCycle: Hypercycle is a new layer 1 blockchain network designed to supply massively scalable, low-cost infrastructure for decentralized AI, and other applications. HyperCycle will leverage SingularityNET's Proof of Reputation consensus mechanism and TODA's data structures and core algorithms.
- OpenCog Hyperon: OpenCog Hyperon is a software framework and associated theory for developing artificial general intelligence (AGI). Hyperon is an extension of the earlier OpenCog project but has been redesigned from the ground up with a new architecture and is rapidly maturing with an alpha release scheduled for this year (H1 2024).
- AI Marketplace: The Marketplace was designed with the idea of allowing AI developers to offer their code modules and products to either end-consumers or for integration in other products. At the time of writing, the Marketplace, currently in beta, has not moved at the pace of the market (The Supervisory Council has created an internal document outlining the current offering.)

Current setup

The core R&D is centralized with some of Deep Funding's budget allocated to initiatives that could benefit the core development.

What's been tried before

The Foundation has not attempted to do the core development through Deep Funding or any third parties.

Challenge

The centralized operation of the development of the software is appropriate for the current maturity of the SingularityNET ecosystem. The organization is not ready yet for making major changes. Once good mechanisms are in place in Deep Funding and other grants programs, it will be feasible to slowly move the core development into these programs.

- Siloing of knowledge created by development teams at the Foundation and DF.
- If the core development is the main product of the SNET ecosystem, all of the other entities and units' work is in some way marginalized
- No input whatsoever from any of the other Units regarding core developments.

Decentralization measures or outcomes

- Increasing percentages of core R&D is done through grants programs such as Deep Funding

Ideas for SingularityNET

Not recommended at this time.

Existing tools and models

- Open Source development models (community development)
- Ethics and safety regulations
- Checks and balances

Financial operations

Financial operations is the day-to-day management of finance. As they say in the industry: Not your keys, not your crypto. In a shared treasury DAO, the disbursement of funds is performed through automated capabilities. In projects where the bulk of the tokens are held by the Foundation, the community does not have control of the actual issuance of funds. In other words, even when a budget approval is made, there is an operations team that retains control of the release of the money. In Web3 this also can create personal liability or risks in terms of the people who are signatories on multisig wallets.

The following tensions need to be addressed in attempts to decentralized financial operations:

- Overhead and technical responsibility for proper process. Using a designated finance department provides regular invoicing, payment, and resolution capabilities.
- Multisig responsibilities need people who are willing to sign the wallet each month. The more signatories that are required, the higher the risk that payments could be delayed because someone is unavailable. Management of the signatories and ensuring they will be available requires technology that is still under development.
- Responsible use of funds for the purpose that they were designed to fulfill. Technically, DAO members can just decide to split the pool of tokens instead of funding the project itself. DAO raiding and rugging are common in the industry.
- Even well-intentioned communities can end up using funds for low-quality work. When releasing funds to the community, it is difficult for a Foundation to ensure quality standards on the work that is performed. (The flip side is that the community might fund higher quality work, or provide a balance of power that offers useful alternative options to the ecosystem as a whole.)
- Checks and balances on the use of funds. When the experts requesting funds are the same as those who check the quality of work, it creates a conflict of interest. On the other hand, having a group that just approves funds but does not understand the technical aspects of the work being done creates knowledge silos and rubber-stamping approvals.
- Token price and long-term viability implications. Most people who get paid in the native token of a project will immediately sell those tokens on the market, putting downward pressure on token values. Using too much of the treasury too quickly will impact the long-term viability of the project.
- Creation of “whales” for voting power. A positive outcome of having sub-units hold tokens is that they can vote as a bloc--but the appropriate technical balances need to be applied so that the multisig holders actually do vote in the way that the group agrees to vote.

The SingularityNET foundation has expressed the desire to decentralize the financial management of the wallets designated for the community. At the same time, they want to ensure quality and responsibility of the use of funds.

Artifacts

- Thoughts from Jan on decentralizing financial operations.
- Deep Funding Operations
- Multisig wallets and transaction histories
- Procedures documents for submission and payment of contractors and staff.

Current setup

- The Foundation’s financial operations department holds keys to all of the wallets of the Foundation, Deep Funding, Ambassador Program, and Supervisory Council.
- The Ambassador Program has a separate wallet for their regular budgetary allowance. They receive a quarterly allowance that they self-manage.

- Deep Funding has an automated mechanism whereby funds are released to winning projects based on the achievement of milestones.

What's been tried before

- Over the 6 months time of the Supervisory Council, the single and multisig wallets for the SC have been rolled into the formal Operations Department for the Foundation, and a standard procedure for invoicing has been developed. This creates a foundation for decentralization, because there is a proper procedure that can be handed off.
- The SC used a consensus mechanism for deciding on one another's payments, where all had to agree to the payment request of each other. This worked well and did produce the desired outcome (this document) within the timeframe and budget allocated.
- The Ambassadors program has created a budgeting process where each function requests a quarterly budget and they discuss the allocation within their current budget. They are in the process of creating accountability through reports that each team needs to submit.

Challenges

- The Foundation can functionally prevent payments for many of the units immediately and in almost all cases within one quarter could cut off funding.
- Legal risk in terms of the centralization of power: all wallets are functionally held by the Foundation.
- Power dynamics between the Foundation and the other units: Everyone knows they hold the power of monetary allocation.
- Power dynamics for development: the largest amount of budget (by far) is held by the Foundation. Other units can be functionally ignored, even if they do useful activities.
- Units which have been allocated tokens don't have the voting power of those tokens.
- The Foundation does not have to take seriously any feedback from the units. They have no operational power on their own.
- The Units do not have to develop organizational maturity in terms of their token allocations. Units have not seriously considered how to be financially self-sustaining because of the grants mechanism where the Foundation operates as a parent granting money.

Decentralization measures or outcomes

- Each unit has control of its own budget.
- Increasing amounts of the overall ecosystem budget are controlled outside of the Foundation.
- Accountability reports show that money allocated is being responsibly spent on the outcomes budgeted.

- Tokens are used within the ecosystem for ecosystem services, as outlined in the original whitepaper.
- Individual units are able to vote with the tokens allocated to the units.
- Transparency of who the individuals are who control the wallets in the sub-units, if not in the Foundation itself.

Ideas for SingularityNET

- Implementation of FactoryDAO Bank to allow Ambassadors, Deep Funding, and Supervisory Council to hold their treasury control with limitations on their monthly spending.
- Creating a treasury stewardship body made up of representatives from each of the units, plus independent third parties who do not have conflict of interest.
- Anonymous approval process of Deep Funding for one anothers' mil random choice of 7 people who give "yes" or "no" to completion of milestones. They don't know of each others' choices, and there are no repercussions, 5/7 must approve the completion of a milestone. Opposers must give at least 1 sentence of what needs to be complete to get approval.
- Professional council that approves milestone delivery must be made of people who are not applying for funding rounds, connected with the treasury stewardship body.
- Stewardship bodies have internal systems for approving one anothers' monthly payment. The teams themselves are able to approve payment for one another's work.
- Different units within the ecosystem audit one another on a regular basis for funding oversight.
- Separate "finance department" that provides financial operation services for the different units. This could be created as a single finance service supplier, or as a competitive third-party environment where different financial service providers could be chosen by each unit depending on their preference.

Existing tools

- MPC Wallets: Social recovery and/or social key storage.
- FactoryDAO Bank: Keys to wallet given to sub-DAOs, but the subDAOs can only spend an allocated monthly / quarterly amount.

Treasury management

Treasury management ensures the efficient handling of digital assets in treasury to optimize for both cash flow (provide necessary liquidity), generate returns and impact, and manage risk. In Web3, in addition to making investments and hedges, appropriate treasury management is necessary for maintaining a healthy token price.

See an example here.

Artifacts

- Processes or documentation by the Foundation's finance department and executive committee about treasury management

Current setup

The SingularityNET Foundation manages all wallets.

What's been tried before

To our knowledge no attempts have been made to address decentralization of this function. However, the process has recently been carefully documented and formalized by the Foundation such that it is in a state to be decentralized. Earlier attempts would have been premature.

Challenges

- Inefficiencies due to siloed control and access to wallets.
- The number of wallets under management and managing the number of transactions as the network scales.
- Determining processes for establishing the goals of treasury optimization and execution strategies of those goals whilst aligning them with Vision and Purpose.
- Legal and regulatory issues and concerns.

Decentralization measures or outcomes

- Each SingularityNET body manages their own treasury and decides what mechanisms they use to grow it.
- Token allocation amounts are collectively decided by the SingularityNET community, not assigned by the Foundation voted on.

Ideas for SingularityNET

- Use the Ambassadors program and marketing to attract, identify and empower members with expertise in market dynamics and financial management. They can participate as part of the Treasury Guild to consult with the treasury managers of the Foundation and Deep Funding.
- Incorporate Deep Funding projects as part of an investment portfolio.
- FF Treasury Diversification Proposal
- Pocket DAO Treasury Diversification Proposal
- Gitcoin Treasury Diversification Proposal
- Set up a continuous funding mechanism where a portion of the treasury funds is automatically allocated to approved projects or initiatives based on predefined criteria or milestones.

Treasury management as a tool for checks and balances:

- Over time, decentralized arms have more control of their budgets, for example, where they can do what they want with it, without clawback mechanisms.
- Give an independent treasury to an independent body to create checks and balances. For example, a safety council has to review all code before it's released.

Existing tools and models

Enterprise level platforms

- Fireblocks
- TresFinance

For DAOs

- Yearn Finance - help DAOs earn yields on their digital assets with a set-and-forget tool that offers yield-as-a-service (YaaS) through various back-end yield strategies
- Hedgey provides token vesting, lockups, grants and distributions. It makes DAO plug-ins to help with things like diversification and yield, over-the-counter purchases, vesting, compensation, DAO-to-DAO token swaps, and complex options strategies.
- Balancer allows for pools of up to eight assets that make it an ideal option for managing diversified treasuries. The term "balance" in Balancer refers to the method of maintaining a stable asset ratio within the pool.
- Llama offers tailored treasury allocation strategies.
- Weezi is a DAO asset management CRM that allows DAOs to manage their funds across different treasuries and wallets.
- Multis' offers treasury management tools for DAOs include cross-chain monitoring, budgeting, payroll, cash flow visualization, and financial reporting.
- Exponent provides decentralized capital-as-a-service, allowing DAOs to manage their treasuries without handing over their keys. Their tools include risk monitoring and built-in alerts.
- XDAO – MultiChain DAO Ecosystem

Partnerships

The partnerships function seeks to create and manage commercial and non-commercial relationships with other organizations to co-market, co-develop, and co-produce an offering.

Artifacts

- Existing partnership agreements.
- Token merger with Fetch.ai and Ocean Protocol.

Current setup

- All partnership activity is currently done within the Foundation, including for Deep Funding.

- Ambassadors work with overlapping communities' Discords in a quid pro quo manner for advertising, learnings, etc. but with no real impact toward business development or growth.

What's been tried before

- Listening sessions asking the community how they are thinking about partnerships with Deep Funding.
- Voting on mergers or partnerships. The Foundation does all the negotiations and does not consult with the community. Afterwards, the community can provide a yes/no vote.

Challenges

- Fully centralized decision-making regarding major partnerships. (This is understandable due to the nature of negotiations for partnerships.)
- The Foundation holds a huge number of voting tokens, so even when they ask for a vote, they can control the results.
- The greater community is concerned with money over decentralization, so partnership decisions will come down to profit potential, risking derailing the Why in favor of short term profit.

Decentralization measures or outcomes

- Community deliberation with major decisions and partnership.
- SingularityNET community wide consultation (for example through elected councils or community representatives) on major decisions and partnerships.
- Partnerships just as likely come from the community as from Foundation business development efforts.

Ideas for SingularityNET

- Elect Partnership Approval board from the community with transparent mandate and reporting.
- Empower and train Ambassadors to engage in business development and partnership development opportunities.

Existing tools and models

- Partnerships transparently proposed as community proposals and votes.
- Elected boards for stewardship (like the Supervisory Council).
- DAOHaus

Support

The support function in the context of an organized group of people seeks to support individual units or contributors within the organizational ecosystem to help meet their needs in regards to the ecosystem's goals and should include the structures in place to do so.

Wellbeing

Wellbeing is typically handled through human resources departments and the definition varies widely by jurisdiction, culture, and industry. Most jurisdictions have base requirements around sick leave, vacation time, disability insurance, parental leave, lunch money, and health and safety standards. Some organizations provide extensive perks including professional training, mentoring, gyms, snacks, or payment for co-working space for remote workers. In cooperatives, long-term welfare and family services can be part of the package also.

The DAO space has evolved out of the remote working and gig economy space, which provides nothing in terms of well-being. However, because of the collaborative ethos of DAOs, the industry generally spends a lot more time on "vibes" and social inclusion than other "gig work" and freelance platforms have done. No real standards have been set in the industry for handling any types of well-being situations, so there are no precedents or tooling in this area.

Artifacts

- Wellbeing policies
- Transaction histories

Current setup

The Foundation hires everyone as remote first contractors. The Ambassador Program takes an informal approach, but as a collective, there tends to be more room for friendship, though there are no monetary resources for wellbeing programs. The Supervisory Council was faced with the illness of one of the members of the council during its mandate, and made the decision to pay the regular rate as a kind of "disability insurance" for the participant in question. No formal agreement was in place, but this was done as an ad-hoc decision.

Based on the above, it could be said that there is a decentralization of efforts around wellbeing, with the decisions being made at the edges. For example, the Ambassadors Program could decide to give everyone equivalent pay regardless of the work done, and Deep Funding could issue a proposal for a disability fund for all participants in the network.

What's been tried

Fundamentally, the decisions are decentralized, but there is no budget or formal function for wellbeing. All entities in the ecosystem are free to implement the wellbeing policies that they feel are appropriate.

Challenges

The challenges outlined here are not specific to SingularityNET, but generalized to the Web3 space and remote work as a whole.

- Paying for work performed or hours performed automatically ignores the aspects of work that are related to well-being (sick leave, vacation, pension funds).
- Centralized foundations, core team members, and devs funded by grants programs tend to get "premium" salary rates, where DAO members and bounty hunters tend to get lower rates. This represents a difference in values (profit first vs. community first).
- Geographically distributed organizations include people with dramatically different costs of living and social services provided by their governments.
- Liability and compliance across jurisdictions is impractical, if not impossible, to manage.
- Well-being can include everything from professional development to emotional support, and within a highly distributed organization it is difficult to reach a decision on what is appropriate.
- Managing personal needs in a transparent organization is invasive of people's privacy.
- When it comes to decisions about payment for benefits such as sick leave, parental leave, and pension funds:
    - Dispensation can potentially be considered irresponsible because the funds allocated are designed to fulfill a specific purpose of the organization.
    - Decisions at the edges are the most humane, but also the most subject to corruption (not helping unpopular people / giving ourselves lots of vacation).
- There is little incentive for the organization as a whole to set social policies.
- People move from project to project in a short-term manner, so it's difficult to identify who is "deserving" of a benefit.
- Money in Web3 comes from a "magical money printer" machine.
    - This could potentially lead to better well-being policies because there is less "profit motive".
    - This could lead to worse well-being policies because it's harder to justify expenses that don't fall into the project execution bucket.

Decentralization measures or outcomes

- Budget to all units for social and wellbeing support.
- Policies regarding wellbeing support for contract workers.
- Community members are given support for some types of wellness leave.

Ideas for SingularityNET

- Establishment of a cross-unit team to create a recommendation for a wellbeing policy.
- Setting aside a percentage of every unit's budget for wellbeing, and allowing the units to decide on the use of that money (with anonymized reporting).
- Research into the community's wellbeing needs.

Existing tools or models

- Purposely Developmental organizations
- Mindfulness and meditation
- Transformational Coaching and Embodiment
- Mutual aid and peer support structures
- Stipends or subsidies for members wellbeing expenses
- Safety Wings - nomad insurance,
- Opolis
- Inner Space place - https://design-school-for-regenerating-earth.mn.co

Professional Learning and Development

The professional learning and development function seeks to help SingularityNET contributors develop new skills to enhance their professional development and meet ecosystem needs. This should include the tools and strategies to create a workforce that is beneficial in order to create beneficial AGI.

As with many professions of consequence, having a commitment to creating beneficial AGI requires a personal commitment to ethical professional behavior inline with the ethical behavior we seek to create in AGI.

Although SingularityNET is a company that relies entirely on self-employed contractors, professional development would still be mutually beneficial for both the organization and the contractors. A strategy for this would help maximize the capacity of individuals to move freely within the ecosystem, allowing them to gain the skills they need to take on more varied tasks or responsibilities, and develop their career capital, particularly as it relates to beneficial AGI. Fulfillment of training needs is also key to accessibility and equity among contributors, since as has been suggested earlier in this document, restricted access to specialized knowledge can concentrate power among a few individuals.

We see this function as key to two aspects of the SNET ecosystem:

- Beneficial AI: It is unclear whether there is even one person in the entire ecosystem with any formal education in ethics. Without having a basic foundation in ethics and safety, it seems unlikely that anyone could develop beneficial and ethical AGI. This is a core need that is simply a blind spot due to the way in which the organization has evolved and it needs to be addressed urgently.

- Decentralization: Understanding democracy and “civic duty” as it relates to the ecosystem is essential to create a decentralized governance system.

Artifacts

- Training and professional development curricula or partnerships, usually under the leadership of the personnel department and generally executed on an organization-wide, team-wide, or individual level.
- Ethics and safety compliance.

Current setup

Foundation

Individual professional learning and development is requested and approved in an ad hoc manner with no schedule of training or requirements.

Ambassadors

No formal processes are in place, but individuals are welcome to join Working Groups that align with their professional development interests and learn through participation.

Deep Funding

None

What’s been tried before

No strategy has been tried, or an attempt at decentralizing this area.

Challenges

- Absence of budget allocation means there is low awareness and low buy-in.
- Lack of training can restrict movement and encourage siloing.
- Lack of knowledge concentrates power among those with the deepest ecosystem knowledge which contributes to an atmosphere of absence of support.
- The lack of formal training systems can have knock-on effects upon other parts of the system, such as onboarding and outreach.
- Most people at the Foundation are contractors, not employees, so no Human Resources oversight of professional development programs or opportunities.
- Experts, most likely from outside SNET, are required to help design and execute professional training.
- No required and ongoing education about governance and democracy means there is a problem upholding decentralization principles.
- Training isn't available for the community in the way it is available for Foundation staff.

Decentralization measure or outcomes

- A training body is established for development of and delivery of ethics and safety training and reports in a transparent way on the percentage of people in different units who have passed the training, with highlights on key decision makers. The training body is accountable to the community as well as the Foundation.
- Strategy is developed collectively by the community, reflecting community learning needs and supplemented by an expert audit of the strategy.
- There is a way to add or incorporate local initiatives that are relevant to the learning needs of local groups.
- Budget is community controlled with common decision making about overall budget, but local power for individual groups.
- Design, implementation, and evolution of training is transparent.
- Foundation and decentralized community collaborate on needs through the Training Body or committee.
- Training provision rules are agreed upon collaboratively, and clearly defined for quality control and training level.
- Training documentation and materials are common property and commonly available (according to the access rules).
- Access to modes of delivery are easily transferable between parties (e.g. video accounts for training delivery).
- Regular reporting on the applications of ethics and safety training on the organization.

Ideas for SingularityNET

- Creating a properly funded Ethics and Safety Training Body or committee made up of representatives from within and outside SingularityNET's ecosystem with a revolving election mechanism so power is not concentrated and who have enforcement capacities regarding removal of ecosystem members who do not get properly trained.
    - Initially at least 50% of people who are actively paid by the ecosystem are trained in ethics (or the minimum amount of training the Training Body decides is appropriate).
    - Within 2 years, 95% of people have the training, and that percentage is maintained consistently above 90%.
- Specific treasury allocation for learning and development about ethics, governance, democracy and safety, perhaps as part of an overall Community budget outside of funding the Training Body.
- Development of curricula in ethics and in democratic processes that are available and mandatory for participants in the ecosystem.
- Create community-owned and accessed channels for delivering sessions (potentially in collaboration with wellbeing and other community-centered initiatives).
- Foundation and decentralized community collaborate on needs through the Training Body or committee.

Existing tools or models

- Bolster Leadership by consultant Lisa Wocken provides leadership development for Web2 and Web3 professionals.
- On the job training
- Seminars that are organization wide, or individual
- Continuing Education requirements
- Accreditations offered by professional organizations
- Hive3 will start offering upskilling courses for Web2 and Web3 companies
- Ad hoc university courses relevant to a skill or sector
- Advanced degrees often paid for by the employer such as an MBA or MPA
- Sabbaticals

Recommendations for Experiments

Immediate Experiments: Low-hanging fruit

Here is a list of top experiments at the recommendation by the Supervisory Council. It is envisioned that for each experiment, the team will start with a research and problem definition process, then make recommendations for implementation and create budgeting for the experiment.

The Systemic Design Thinking Framework is recommended to properly explore these ideas:

1. Have the separate entities hold their own wallets, but only get monthly or quarterly token allocations. This allows control of the velocity of spending while giving the control to the Ambassadors/ Deep Funding / Supervisory Council. (FactoryDAO “Bank” module has a built-in function for this).
2. Tactical alignment: Creation of KPIs for the Units, with each unit having to “approve” the KPIs of the other units, and having funding contingent on approval that the KPIs and strategy are in alignment with the overall goals of the Ecosystem. (Part of this activity will be defining who the units are for the purpose of checks and balances, which will be applicable across different areas of decentralization.) KPIs selection to be reviewed quarterly.
3. Funding and creation of a Ethics Training and Development body tasked with creating a minimum ethics and safety training program, and ensuring at least 50% of paid people within the Foundation and the other paid units have this basic ethics training within 18 months.
4. Creation of an appropriate professional body to address the legal issues around decentralization so it is clear what members’ legal liability is at any point in their participation in the ecosystem.
5. Anonymous delivery oversight process of Deep Funding: random choice of 7 people who give “yes” or “no” to completion of milestones. They don’t know of each others’

choices, and there are no repercussions, 5/7 must approve the completion of a milestone. Opposers must give at least 1 sentence of what needs to be complete to get approval. Trial of experiments with random sortition from the community versus reviewers who are in a pre-approved group (potentially other grantees or “professional” reviewers).

6. Run a Strategy Assembly to define SingularityNET’s community and ventures strategy: akin to a citizen assembly, the Strategy Assembly would include different stakeholder groups within the community to deliberate on a set of priorities and trade-offs to grow the SingularityNET ecosystem. It is essential to have professional Citizens Assembly facilitation, with information sessions, and with compensation for the participants in the activity.
7. Forby.io for co-proposal creation. This is a new technology seeking beta users -- designed specifically for co-creating proposals and commenting on proposals.

Recommendations for a subsequent Supervisory Council

Context
The current supervisory council will end their mandate on May 31st, leading to a halt in the process. We hereby propose to launch the elections of a new council following this proposal’s approval. In addition to current responsibilities, the new council will have the following mandate.

Objective
Continue stewarding the process of decentralization by:

1. Receiving control of the Supervisory Council wallet and managing said funds to steward the process of decentralizing SingulairtyNET in coordination with the Foundation and Community.
2. Selecting, writing, and launching RFPs, via DeepFunding, for 3 selected experiments and workgroups to evolve areas of the blueprint.

3. Once the proposal teams have been selected for the RFPs via community voting, oversee the work of the teams (mentorship, approval of milestone payments, approval of change of plans to ensure agility, and review of impact assessments).

Size of the Council

Recommended 4 members with a 3/5 signing power on the multisig. With one Foundation member, the decentralization lead, appointed as the 5th signature in case of emergency (e.g. sufficient council members not available for longer than 1 week to sign due to illness, etc.).

Additional budget for task force members for communications and marketing support.

Term
The 2 members with the highest votes are elected for 2 years, the following two are elected for 1 year. This system provides continuity with two new members elected every year.

Members of the council can be re-elected 1 year after the end of their term. If a member withdraws, the candidate with the following number of votes is offered the position, and if they refuse, a new election is triggered.

Expertise recommended
The following expertise are recommended for candidates:

- Web3/DAOs legal
- Change management
- Organization design
- Governance
- Design Thinking

Additionally, at least 1 member should have been actively involved in the community for at least 6 months.

Compensation and commitment
It's recommended to offer a regular day rate of at least $1,000 and a minimum commitment of 2 days per week.

Election process
Recommended using the same process as the previous election cycle. Process to be organized by the Foundation's decentralization lead as per her responsibilities, with the support of the marketing department. Subsequent election processes can be evolved through an experiment and ratified via the metagovernance process in the blueprint.

Epilogue

By Grace Rachmany

It would be a secret that I did the bulk of the writing on this document, except for the fact that we were all paid from the same multisig, plus Google Docs has a history on it. I believe this document represents a groundbreaking piece of work and far surpasses any of the "How to DAO" documentation in terms of providing a comprehensive overview of the different aspects of decentralization that are relevant to the governance of any type of technology development that should be in the public domain.

While I have done quite a lot of the writing and oversight on the document, it is not my brainchild. A tremendous amount of the thought in this document has come from the brilliant minds of my colleagues, particularly Daniel Ospina of RnDAO, Dr. Nick Almond, Jan Horlings of SingularityNET, and Vanessa Cardui from the Ambassador Program. The hours we spent discussing different aspects of decentralization have truly opened my eyes and my mind.

It could be argued that this document is relevant for all technology and intellectual property development. After all, we know that social media has dramatically increased the misery of our youth, that industrial farming damages both the environment and our health, and that pharmaceutical interventions have created deadly addictions and mass death, not to mention the development of biological and chemical weapons. All of these technologies are developed behind closed doors and then foisted upon the public.

It is to the credit of the SingularityNET Foundation that they have taken the time and budget to consider the importance of governance, and that they have funded the production of this Blueprint. It is to my great surprise and delight to have such a success, both on a personal level and as a representative of a democratic process. It is easy to fall into the belief that people are too stupid to elect talented representatives, that those representatives are always corrupt, or that the differences of opinion among those representatives will cause them to be ineffective. This Blueprint, for me, demonstrates that a democratic process and a self-governing body can be competent, intelligent and diverse.

The members of the Supervisory Council are three people born on different continents, with different cultures and working styles. The people we brought into the Task Force represent yet more cultures and working styles. We had our share of disagreements, mishaps, mistakes, and struggles. Yet, through it all, we managed to produce high-quality work, conduct professional meetings and workshops, and generally enjoy one another's company; I hope.

In that spirit, I would like to thank all of my colleagues for their professionalism and for tolerating my generally cantankerous nature. A special thanks is in order for Daniel Ospina, my co-electee. We went through several high-pressure situations, and Daniel was always honest, true to his values, true to his word, and someone who I could always count on to handle any situation with integrity and care.

Note regarding the framework for this document (by Grace Rachmany). It was exciting for me to get to know the Viable Systems Model better and work with it for the Blueprint. However, as one of the main writers of many of the sections of this document, at some point I began to feel that this framework was too limiting in some areas and not explicit enough in others. While this work feels comprehensive and I am satisfied with the end result, if I started over again, I would have used a different outline. Perhaps future iterations could experiment with other frameworks.

Appendix 1: Scaffolding for elected teams

DAOs commonly elect councils and committees, such as the Supervisory Council who wrote this document. We have suggested representative councils, elected boards, and sortition for creating working groups and citizens' assemblies in this blueprint.

Starting a new working group isn't simple, though, and it takes the proper structures, or what we're calling Scaffolding. When the Supervisory Council was created by SingularityNET, none of this structure was in place. Fortunately, we are professionals in developing these things for other organizations, so it only took us a few weeks to establish our rhythms and working procedures internally. However, our experience with setting ourselves up from a cold start inspired us to add this section, which outlines the basic scaffolding that DAOs should have in place prior to an election of any type of committee. Without this structure, any new team will spend several weeks or even months creating it themselves.

Scaffolding needs we identified are:

- Directories and organizational structure
- Team building
- Clear objectives and success criteria
- Office operations infrastructure
- Communications infrastructure
- Knowledge management infrastructure
- Compensation infrastructure
- Contracting processes: For teams that will be contracting work, or making purchases, there should be processes in place for them to take action.

Directories and organizational structure

Simply put, any new committee needs to know who's who in the organization. Clarity and documentation around the relationship of different parts of the organization to each other, and directories for finding the people who are relevant to the stewardship roles.

Many DAOs are complex, and it can take several weeks of "onboarding" just to figure out what other teams operate in the organization, what the power relationships are, and what functions need to be consulted. Not everyone uses the same chat platform, so even onboarding to Telegram or Discord or Slack or Mattermost might not be enough to reach everyone in the organization.

Guidance to a new team can come in forms such as:

- Organizational structure charts (with or without names of people heading up teams)
- Organizational directory of people with contact information
- Videos for onboarding, explaining the different teams.
- Written documentation describing the organization functions
- A "guide" in the form of a specific person who is in charge of explaining the relationships among teams, and/or making the connections

- Handbook for onboarding members to the organization
- Single point of contact to shepherd onboarding
- Internal and external FAQ pages

Team building

Joining an elected council means that you are suddenly called upon to work with a bunch of randos. Rather than starting to work under an existing structure, this new room full of people has to figure out how to manage the relationships in the room. They may have completely different working styles, come from different cultures, or be elected for completely different reasons.

Team building requires some level of personal touch and can't be automated, so DAOs should allocate a budget and a facilitator at least to get the group started.

Team building can take forms such as:

- In-person launch
- Setting of procedures for role allocation
- Series of facilitated meetings to help set up rhythms
- Workshops such as Microsolidarity or other structured workshops the team can do together
- In-person facilitation for initial meetings
- Onboarding to systems that have worked for other committees and teams
- Additional in-person meetings at inflection points

Clear objectives and milestones

In cases where a council is elected for a particular task, the milestones and objectives should be clearly set out. Likewise, there might be a need for systems that would remove members of the committee who are not performing or for disbanding the committee if it is not performing well. In cases where milestones are not set up or the objectives are unclear, teams can waste time and end up not providing value to the DAO or organization.

Office operations infrastructure

DAOs infrequently include any kind of office operations infrastructure. In other words, when you join, you don't get a company e-mail, access to a shared network, or any processes or procedures for working. Teams and councils should be provided with standard infrastructure for their communications, shared documents, and other communications. Preferably the infrastructure would be shared by the entire organization.

Infrastructure can include:

- Shared office tools (Notion, Teams, Google drives, etc.)
- Shared calendars or coordination tools

- Email addresses and tools
- Asynchronous chat tools
- Conferencing software (Zoom, Huddle01)
- Task management (Dework, Sobol, Atlassian, Notion, etc.)
- Locations for storing shared information (call recordings, agendas, tasks)
- Permissions on appropriate shared IT resources
- Training on how to use the resources in a standardized way
- Github/Gitbook or other Wiki

The main problem with any of these solutions is that they centralize control around the DevOps or System Administrator who has the keys for the office infrastructure. The result in almost every DAO is a patchwork of different people volunteering their Google, Notion, Office, Zoom, and other accounts, with no control of these resources by the communities, and no real way for the community to pass on administrative access from one cohort to the next.

Knowledge management infrastructure

Organizations are constantly sharing information such as links, blogs, internal documentation, DAO discussion and proposals, etc. The DAO should have a directory or way for elected groups to immediately see and share their information. Creating proper knowledge management systems will prevent loss of institutional memory and also make it easier for the team to share with others.

Knowledge management includes:

- Repositories for existing data
- Procedures for keeping up to date with information being released throughout the organization
- Agendas for meetings that each team needs to be aware of / public list of meetings and teams
- Processes and locations for co-writing and co-creating of knowledge
- Directories for finding information
- Processes and procedures for publishing information internally and externally
- Policies around recording and sharing of tacit, implicit, and explicit information within the organization
- Permissions on appropriate shared IT resources
- Training on how to use the resources in a standardized way
- Github/Gitbook or other Wiki

Compensation infrastructure

Control of the funding is one of the essential power issues when it comes to DAOs.
Many DAOs will have an automated way of paying out the stewards, but often this is in a bulk sum or requires a multisig, and there's no clear way to send an invoice or receipt for the

funds. Furthermore, if the group is going to contract other people or entities, they need to have a system in place so that they can make payments.

Paid teams will need to have the following in place:

- Approvals process for payment (do they approve one another or is there another entity that approves payments)
- Appropriately managed multisig (or keys to the multisig)
- Invoicing procedure if necessary
- Payment publication procedure for transparency to the DAO
- Schedule for invoicing and payment by team and sub-teams
- Contracting procedures
- If needed, processes for payment into fiat accounts for subcontractors or outside hires
- Understanding of what happens in case of under-budgeting or over-budgeting, whether surplus rolls over from one cycle to the next, etc.

Contracting processes

If the elected group will need to contract additional work, there should be processes in place on how to go about doing so. For example, they might be required to get at least 3 bids for work, have a standard submission form for calls for proposals, use an organizational hiring platform for screening candidates, etc. The organization should also include processes for making calls to the public for candidates and work.

Attribution

As mentioned below, we had no structures in place for making attributions for people's intellectual contribution to this document. We did create a system design (you need access) which was not implemented but could be a potential starting point for an attribution system.

Appendix 2: Intellectual property and attribution

This document is made available through a Creative Commons 4.0 license BY-NC-SA.

Note on process:
Intellectual property and attribution for this document has been something we did not discuss in advance of the writing of this blueprint. The failure to think about attribution and Intellectual Property in advance has led to the following issues:

- Centralized and slightly arbitrary decision-making on what comments to include, and no accountability for accepting or rejecting something. (Any one of the main writers

might come by a comment and decide what to do about it. Generally, we consulted one another, but we didn't have to.)
- Loss of comments that are useful in some capacity for SingularityNET but not directly relevant to the document (presumably they are in the archive of Google Comments).
- Lack of attribution for people's original contributions. (Google Docs presumably has all the history, but it is not in a useful format.)
- No prior Intellectual Property agreement or decision on what type of attribution license to use for this document. Decision made towards the final stages.
- Difficulty in deciding if/how to allocate rewards for Ambassadors and/or other contributors.

All of the above could be viewed through the lens of decentralization and the Knowledge Management section addresses some of them.

The best we can do at this point is to note who has been involved. If you have contributed and don't see your name, by all means add it. We have also allocated some of the remaining budget from the Supervisory Council to the Knowledge Management team to explore these issues further.