

NERV

Network Emergency Response Vullunteers

DAO Whitepaper

This whitepaper serves as a foundational document for the creation of a new DAO

It includes the organogram, by-laws, a roadmap and the basic smart contracts needed to operate

Our goal is to create an international treasury fund which will be managed by the community itself and to allocate these funds directly to projects, tasks and other interventions that will help society transition from a representative democracy to a more direct democracy, call it liquid or digital

We are organizing ourselves to launch the platform by mid 2022 and hope to achieve practical results beginning 2023. Our goal is to operate globally, but as with all situations where limited resources need to be managed we shall focus our attention to a particular country or a set of countries to begin with which will be decided by the DAO democratically

Welcome to NERV!

"Power tends to corrupt, and absolute
power corrupts absolutely."

Lord Acton, 1887

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Mission

NERV is a DAO whose goal is to help societies transition from representative democracies to more direct democracies with the help of digital tools such as remote e-voting (electronic voting at a distance).

According to the Democracy Index published by The Economist, only 8.4% of the countries worldwide can be considered full democracies and around 35.6% of the world population lives in what can be considered to be authoritarian regimes!

Democracy Index 2020, by regime type

	No. of countries	% of countries	% of world population
Full democracies	23	13.8	8.4
Flawed democracies	52	31.1	41.0
Hybrid regimes	35	21.0	15.0
Authoritarian regimes	57	34.1	35.6

Note: "World" population refers to the total population of the 167 countries covered by the Index. Since this excludes only micro states, this is nearly equal to the entire estimated world population.

Source: The Economist Intelligence Unit.

Members of the NERV DAO pledge to fight this state of affairs and to change this situation with the best of our knowledge and efforts!

We are here to fight authoritarianism, that is our mission.

Because we operate according to DAO principles and make use of blockchain in all of its full capacity, our institution is transparent and uncensorable. Governance is conducted by our members who pay their due fees annually. As a benefit for paying the annual fee, members are invited to publish and vote on proposals that they consider relevant to the organization.

There's no central authority deciding for YOU what actions NERV should be taking.

Solutions

Remote e-voting can only be achieved by developing a set of software tools and by providing education on the subject in order to bring its existence and necessity to light:

1. Create software that facilitates on-line political debates and the generation of consensus
2. Create and contribute to spaces where political discussion happens such as with think-tanks, in universities and other governmental institutions. This is what we would usually call off-chain governance
3. Develop solutions for electronic vote to be used even by the private sector
4. Audit institutions in order to evaluate how democratic they really are
5. Publish a magazine where all these issues are investigated including reports on the state of the art of remote e-voting

Roadmap

2022 – develop the basic tools for internal use/political discussion consensus generation

2022 end of – Initial DEX offering, pairing with a contractor that provides IDM, hopefully reaching the first 1000 members

2023 – supporting the first political party or another relevant political platform to use remote e-voting in a “developed country”

Reaching 10 000 users membership

2024 -supporting the first political party or another relevant political platform to use remote e-voting in a “developing country”

Reaching 100 000 users membership

2025 – having representative ambassadors well established in at least 50% of the countries worldwide.

2026 – 2029 - continued work

Reaching 1 000 000 users membership

2030 – remote e-voting solutions fully available in all the countries in the worldwide

Stakeholders

- Political parties that want to be digitized and implement remote e-voting in their internal procedures such as organ membership selection, program proposals curation and ratification, public statements and direct participation of the party members in all activities, etc.. These could be more traditional political parties to more recent ones from all sides of the political spectrum, so long as direct democracy is a concern
- Associations, NGOs and other platforms that focus on promoting political debates and direct democracy which may include think-tanks, universities and other governmental institutions
- At a global level we have FOSDEM, ICEGOV, ICEDEG, E-Vote-ID, SmartGov, e-Governance Conference, DEF CON, Devovx, USENIX, Eurocrypt, International Conference on Computer-Aided Verification, Web summit, IACR Conferences, Identity Week, identiverse, Electoral Integrity Project, amongst other events and venues where the activity of NERV might spark interest
- Democracy Earth, Pirate Parties International are organizations who may resonate
- More locally we can find in Portugal, Democracia Digital, Polititank, Conselho Nacional de Debates Universitários, amongst others as venues of interest. More related to blockchain and less to political endeavours but in any case Eth Lisbon, LisCon, Associacao Portuguesa de Blockchain e Criptomoedas, (...)
- In general, multinational giant corporations with transparency concerns may resonate with the values and mission of NERV and may want to establish partnerships

Membership

Membership to the NERV DAO is acquired by sending a proof of the transaction and the corresponding account address used to pay the membership fee, as well as by providing the necessary digital copies or digital certificates of any documentation deemed necessary. Because identity management (IDM) is usually a laborious task which requires specialized training as it is a focal point regarding cybersecurity, and because each country has their own often unique legal requirements and documents, the SEELE committee (which we'll introduce next) suggests that IDM be conducted by a specialized contractor such as [Monokee](#), [Unum ID](#), etc., or any other company that qualifies.

The membership fees will be used in part to finance the IDM providers and the other part will go directly to the community treasury that will provide liquidity.

Another important aspect related to membership is a reputation metric, which we will discuss in greater detail in its own chapter but whose existence is tied to the necessity of recompensing (non monetarily) pro-active and contributing members, incentivizing positive behaviour in the DAO. There will be certain incentives or perks associated with having a high reputation but in no way are these discriminatory to lower reputation or new members. To sum up:

- Members with dues paid are entitled to participate in the DAO governance. Consensus should be by adaptive quorum biasing with minimum quorum of 20%. Proposals made by SEELE and Captains are curated by using a negative turnout bias while for the rest of the DAO we shall use a positive turnout bias.
- Each member can vote only once for each proposal.

Diferenciar positive adaptive quorum biasing de negative quorum biasing, minium quorum 20%? - SEELE right to VETO certain topics? For a locked period?

- Members are entitled access to reporting mechanisms that otherwise are not public. These reports range from textual documentation, video conferences and interviews, to participation in conventions that muster members in a local (on-line or in-presence) yet to define.
- Members are eligible to forms of recompensation such as grants, jobs, rewards or prizes offered by NERV for executing the assigned tasks

Non members can still have access to the endeavours of the organization by means of a magazine published by the NERV DAO named ?.

Reputation

Is a non transferable metric that evaluates the commitment of a user to the organization. It should reflect the time, energy and other resources given to the community. It should also reflect how members view or trust each others judgements and actions. The reputation metric is not intended to discriminate the otherwise homogeneous user base but rather exists to help differentiate between contributing and less active members:

- Voting positive on a proposal that passes adds 3 points to reputation
- Publishing a proposal that passes adds 5 points to reputation
- Publishing or voting positive on a proposal that gets rejected decreases 1 point in reputation
- **Being appointed as a delegate for a particular vote... transits the delegation**
- Successfully executing a single task in the work order of NERV increases reputation by 5 points
- Failure to successfully executed an accepted/appointed task within the contracted deadline decreases reputation by 1 point. Failure to execute within a determined extended period decreases reputation by 10 points
- Successfully onboarding a new member to the DAO increases reputation by 5 points
- Winning a hackathon organized by NERV increases reputation by 100 points. Second place adds 50 points and third place 30 points
- Being attributed a job in NERV and holding that job for a period of 12 months without being fired or accused of misbehaviour by an investigative ethical committees gives the member a 1000 reputation points
- Participating in meetings gives members 1 reputation point for each attendance
- Being inactive for a period longer than 3 months decreases reputation by 10 points
- Inactivity for a period of up to a year decreases reputation by 100 points
- Being averted of on-line misconduct (racial, xenophobia, etc.) by an ethical committee decreases reputation by 10 points
- Being active in the DAO for a period of 1 year increases reputation by 10 points

Shareholders

NERV holds democracy as something of quintessential value. Because of this we require strong identity management and registration to acquire membership, and the reason is so that we can enforce the 1-person-1-vote rule.

Still, in parallel to NERV but outside of this DAO jurisdiction we shall run a treasury which is open to participation and which we do not require disclosure of the identity of the investors. We do this because we want to attract investments towards our mission. Investors manage this treasure alone with a vote weight proportional to the shares that they own. We only impose certain global constraints in order to avoid takeover by whales such as ceiling budgeting in proposals, quadratic voting?,

Protective measures include having a maximum transfer value, **(..elaborate)**

The purpose of this treasury can be multiple. If in one hand it must be so that its investments are aligned with the mission and values of NERV, it may also in parallel seek to generate dividends through its actions such as by investing in other DAOs or by creating software solutions for private or public institutions which are not free to use.

We call the investors of this group WILLE which is german for "will", "desire", or "intention."

The organization, by-laws and internal procedures from WILLE are independent from the rest of the DAO constituents.

By-laws

NERV's by-laws, <https://github.com/NERV-DAO/documentation/blob/main/NERV%20by-laws.md>, were inspired by by-laws that were originally designed for a political party that uses remote e-voting as a mechanism to generate online consensus as can be found in www.partidodigital.pt.

The intention was as is always the case of not for-profit DAOs, to envision an organization without a central authority figure with the potential to be composed of tens of thousands of members spread across the globe and which is coordinated mostly by an on-line platform. Not only this but the task that we propose to ourselves here is to actually build and implement solutions in the real world potentially disrupting politics in authoritarian regimes, or making the role of the professional bureaucrat completely obsolete as we transition or decision-making more into the digital space.

The challenge put forward is thus pioneer and of evident solution. These by-laws are what the we consider to be a relatively simple first proposal but in no way we insist that these should be the final rules and proceedings.

Smart contracts

Proposals

- construct proposal {
publisher;
type (task, job, contract, other):
content;
rate of approval;
quorum reached;
}

SEELE

- List SEELE members
- Construct Meeting {
objective/subject;
time/date;
frequency;
jitsi link to video:
odysee link to video:
IPFS hash to report:
}
➤ construct Substitute member {
exiting member;
highest ranking NERV members queue list;
veto votes;
}

Yellow, Blue and red teams

- construct team {
name;
colour;
mission;
captain;

- list coordinators;
- list members;
- }
- Construct elect captain {
 - list self proposed captains;
 - list captains proposed by ambassadors;
 - list highest ranking members from amongst the team members;
- }
- construct accept new member {
 -
- }
- construct expel member {
 -
- }
- Construct Meeting {
 - objective/subject;
 - time/date;
 - frequency;
 - jitsi link to video:
 - odysee link to video:
 - IPFS hash to report:
- }

Ambassadors

- list ambassadors;
- Construct ambassador {
 - address;
 - country;
- }

Contractors

- Construct contract {

entity name:

entity address:

proposal:

budget:

payment_scheduling:

(...)

}

Ethical committees

- Construct ethical committee {

target proposal;

list committee members;

}

- Construct Meeting {

objective/subject;

time/date;

frequency;

jitsi link to video:

odysee link to video:

IPFS hash to report:

}

Organogram

NERV DAO is constituted around **regular members**, **ambassadors**, **captains**, **yellow**, **blue** and **red teams**, the **ethical committees**, the *founding group* named **SEELE**, **contractors** and finally partnerships with another organization which is not part of NERV but a sister-DAO named **WILLE**.

Regular members are all those who pay membership fee and submit the required registration information.

- Any member can propose, vote or delegate their own vote on a specific proposal or set of proposals on a specific topic to other members. All votes are counted equally
- If vote turnout is consistently low, then proposals by regular members should be approved by adaptive quorum biasing with positive turnout bias. Otherwise by simple majority
- NERV DAO is structured around tasks and jobs. Tasks can be executed by any member of the DAO at any point in time. These are rewarded either with an increase of reputation points or by receiving cryptocurrencies drawn from the DAO treasury. The establishment of these tasks and their rewards is done by those in managerial positions; captains establish the tasks, ambassadors help recruit and find participants willing to execute them and the ethical committees supervise the whole process in efforts to bring to light any misbehaviour. **How to define how much exactly each task should be rewarded?**

Ambassadors

The only requirement to be an ambassador is to have assisted a **?** of meetings (received POAPs <https://medium.com/poap/what-is-poap-d7e8fdcf207d>); onboarding meetings or meetings with the captains, and have been awarded the respective participation tokens. The role of the ambassador is to present the DAO to newcomers and to guide them in NERV:

- Are responsible for the onboarding of new members. By onboarding new members ambassadors get an increase in reputation. Additionally ambassadors may get a cryptocurrency payment if members that join the DAO present a referral code
- When organizing hackatons ambassadors are automatically invited to be part of the hackatons organizing committee

Captains

To be a captain it is required that a minimum **?** reputation value is attained. Captains are the equivalent of directors in the traditional analogue corporate setting. Captains should establish objectives, propose tasks and jobs to the DAO. Should also work closely with ambassadors as some managerial tasks crossover between the two roles:

- Requires a minimum **?** reputation value to be considered a captain
- Proposes tasks and jobs to the DAO. These proposals are curated separately from proposals by regular members and should be validated by adaptive quorum biasing with negative turnout bias
- Participate in regular meetings with ambassadors that should be made public

- Define groups within the yellow, blue and red teams and establish objectives for these groups. Each captain may lead a group of up to 150 people from within a single colour
- Assign coordinators within these groups to help manage the work. These coordinators may further divide the up to 150 people into smaller divisions in accordance with the captain

Yellow, blue and red teams

Groups and sub-groups of members of the DAO each composed of at most 150 members and 15 coordinators. Each group elects a captain responsible for maintaining the repository/code/documentation and managing the team. Yellow teams are the main software developers, blue teams focus on cybersecurity defence and red team focus on attack vectors to the defences put forward by the blue team, in accordance to regular practices in cybersecurity.

Ethical Committees

Are groups formed from amongst members of NERV DAO assigned the task of evaluating whether the allocated resources from the approved proposals are in fact being used in the right way.

- Any member of NERV is eligible to be part of ethical committees
- Likewise membership to ethical committees is not mandatory. Members are invited and are allowed to refuse participation without prejudice
- **Members of ethical committees are assigned according to a plurinominal vote consensus**
- Ought to meet regularly and present a **"report" (what kind?)**
- Ethical committees are instantiated for every approved considered of medium or high impact as established by NERV's by-laws

SEELE

Is an invitation-only group consisting of 10 members who help guide the work of the DAO by curating proposals. Ideally it's constituted by the most notorious members, the members with the highest reputation, but initially it will be formed by the founding members of the project. It's never enough to stress that the votes of members of SEELE weight the same as any other vote from regular members. Proposals by the SEELE however get approved more easily than proposals set up by regular members because of different consensus mechanisms. We chose this way because it's all too common that in DAOs there is a low voter turnout and as a consequent progress is often slow. Thus:

- Intervenes as content and proposals curators. SEELE should video-conference frequently and publish the meetings discussing the work of the DAO and indicate possible directions
- If voter turnout is consistently low, then proposals by the SEELE are approved by adaptive quorum biasing with negative turnout bias. Otherwise by simple majority.

Contractors

We consider those as all private entities who contractualize with NERV and provide some service in exchange for some value in cryptocurrency that is to be transferred directly from the DAO treasury. The choice of contractors, mission and objectives for the contractualization and the overall value of the budget and how payments are to be scheduled in time is to be made by democratic consensual decision between the DAO members.

WILLE

Is an entity outside the DAO whose mission and focus is aligned with the values of NERV.

Ambassadors

Are the first contact between members inside the DAO and the outside community and thus play a relevant role within the organization. The role is akin to that of a mixture between a human resources manager (HR) and a public relations (PR).

Every country where NERV operates should have a strong community of ambassadors who help present the DAO to newcomers.

Ambassadors are an independent body on their own and ought to report only to other ambassadors and captains. The connection between ambassadors and the captains is that while captains are occupied defining what tasks need to be executed and organizing the available talent within the organization, ambassadors can help by searching for solutions outside the DAO.

Should also engage in the offboarding process

Captains

NERV selects the most valorous members to lead particular projects and are the backbone of the organization. The role of captains is essentially a managerial one; captains are expected to lead the software development teams and to coordinate their work. We encourage captains to adopt standard field practices such as following the agile model, cleanroom software engineering, etc.

Captains define the tasks and procedures that need to be executed and help provide solutions. Leadership should always be encouraged by way of example so we invite all captains to contribute with programming skills as well.

The reason this DAO exists is not only to create the necessary treasury but also of equal importance to draw from the human capital available worldwide. There are many talented programmers out there and the FOSS community is as strong as ever and that's why we need the captains.

Basing our ideas on the [Dunbar's number](#) hypothesis, each sub-group within each of the coloured teams must consist of at most 150 members with 1 captain. Further we suggest that for every 10 members 1 coordinator is assigned from amongst, to help the captain their work.

Yellow, blue and red teams

Following standard practices in the cybersecurity community we group members of the DAO who are software developers into 3 colours, each colour attributed a different mission.

Yellow teams are the ones responsible for the development of the software solution per-se. We could have yellow teams focused on smart-contracts, yellow teams focused on distributed ledgers, others focused on front-end development, etc.. In an analogy with the construction field these teams are the essential builders in construction sites. Drawing from the same parallel, the blue team would be those engineers responsible for the establishment of the structural building requirements necessary to guarantee that a particular project is robust and will not fall. They should analyse the cybersecurity of the system designed by the yellow team in all its aspects. We could have blue teams specialized in network analysis, a blue team focused on the security nanokernel such as with the case of TEE from RISC-V, another team focused on analysing hardware backdoors, etc.. Lastly, we discuss the role of the red team which in our analogy would be akin to the construction site inspectors that would at the end of the work done by both the yellow and blue teams look for defects and overlooked details. These could be teams made of ethical hackers, or teams specialized in social engineering attacks, etc..

Tasks executed by members of these teams is always recompensed, sometimes with crypto and always with an increase in reputation. Because only the captains in each team are offered a payed salary, the responsibility for the compliance with the deadlines is always attributed to them. It's expected that members of teams participate regularly in meetings although not necessarily always, and special POAP NFTs are distributed to those participating. Not acquiring a minimum of POAPs for a given period could result in automatically expulsion from the specific team for a temporary period.

Ethical committees

According to Transparency International, $\frac{2}{3}$ of the world population considers that the social environment of their country is corrupt, with the global average of the Corruption Perception Index ranking at 43 points, under 50% and far from 100% that would be considered a society where the perception of corruption would not exist. The ethical committees are organs of NERV whose sole purpose is to mitigate for these situations. One of the main issues in collaborative development, whether we're talking about the government sector, private sector, NGOs, traditional or on-line has always been accountability. We can easily pool resources to a treasury and we can channel them to actors who ought to execute a set of tasks and procedures, routinely or punctually required to achieve the goals to which we set ourselves but if we don't set the proper mechanisms for accountability these resources are often spent without much return on the investment as research by Catherine Austin in [Solari Report](#) for the case of USA for example suggests.

SEELE

SEELE is the founding group of the NERV DAO. The name means soul in german.

The reason for SEELE to exist in the DAO is not meant to segregate the founding members from newcomers or to give them privileges. It simply exists out of the necessity to curate content and to guide the initial workings. In fact, a vote from SEELE members counts as much as a vote from a new comer, regardless of the reputation or of the time of membership or of anything else.

There is one distinction however which we explain:

Proposals made by regular members of the DAO get passed on the bases of a positive quorum biasing while proposals made by the SEELE committee get passed on a negative quorum biasing. ***In either case, proposals are voted on and decided on a majority consensus.*** It so happens that in DAOs voter turnout is usually low. Members enter but usually abstain from participating in governance decisions, averaging 20% only participation. This has stalled progress in many other DAOs. To help mitigate this situation, in adaptive quorum biasing consensus, the % of participants necessary for a proposal to be accepted is proportional to the actual number of participants, so, is used where

Startup plan

To begin operations the SEELE committee **proposes** an initial modest **program** which needs around **100 000 \$** to be implemented. This initial program deals with the most basic needs of the decentralised organization (dorg). From buying the domain for the DAO, to graphism and design, to allocating the first resources to a small group of software engineers, to choosing a PR to represent the DAO at certain important events, etc.. This plan is offered as a way to start operations and pin-points no particular actor that should receive the funding; this ought to be decided democratically.

- (1) Buy nerv.dao domain (**unstoppable domains = 1200\$? ENS?**)
- (2) **5000\$** exclusively to website design and graphism. Whether this grant is directed to NERV members or contractualized to an external entity is a point which can later be taken into consideration by the DAO.
- (3) Form a working group dedicated exclusively to the creation and deployment of smart contracts relevant to NERV. This group should consist of DAO volunteers coordinated by a contracted director who should earn 1000\$/month to help achieve the goals of the group. The director ought to report to the DAO directly through various mechanisms and also to an ethical work group elected amongst the DAO members. To facilitate communications we shall name this work group “**Smart contract developers**” and the corresponding “**Ethical committee for the development of smart contracts**”. This corresponds to an investment of 12 000\$ over a year period.
- (4) Form a working group dedicated to the development and implementation of Computer Supported Cooperative Work (CSCW) solutions that will be used to facilitate communications within the DAO and with other external entities with which NERV might choose to collaborate (political parties, NGOs that advocate for democracy, etc). The working group shall consist of volunteers of the DAO coordinated by an elect director who should earn 1000\$/month, totalling 12 000\$ over the period of a year. Again, we name the group for the sake of communications, “**CSCW developers**” and the corresponding ethical committee the “**Ethical committee supervisors of CSCW development**”.
- (5) NERV should as soon as possible elect its ambassadors. The precise goal, rights and duties of ambassadors is defined in the next chapter. SEELE suggests that the ambassadors organize an hackathon whose 1st, 2nd and 3rd prizes could be 5000\$, 3500\$, 1500\$. The hackathon could be scheduled to happen every year and its name should be “**name**”.
- (6) Elect and finance, 1000\$/month, 12 000\$ yearly, a PR figure responsible to attend and represent NERV in venues such as FOSDEM, ICEGOV, etc.. (**elaborate a little**)
- (7) Choose a contractor to help with KYC/IDM like Monokee, Unum ID, etc. **budget price per user/registration? payment in crypto?**
- (8) The DAO should attribute a monetary prize, for example of a 10 000\$ to the person or institution, internal or external, that members of NERV consider that most contributed the advancement of our own mission. The receivers of the prize should be chosen by democratic consensus. This prize could be attributed every year and should be named “**name**”.

(9) production of NERV merchandise (t-shirts, pens, etc.) for sale on the website. proceeds revert to DAO. invest 10000\$ in this? elect responsible member and ethics committee?

(10) Think

Contractors

Not all countries have strong identity management offered by the state. In this situations it may be interesting to establish partnerships with companies such as monokee,

Secondly, other DAOs could prove to be a good support to startup; Effect Network, Edgeware, Lex DAO, etc..

Identity management providers:

- Monokee
- Unum ID