Section 1: Applicants

Name of the main applicant	Dr. Nami Sunami
Affiliation – institution	TU Eindhoven (TU/e)
Affiliation – department	Library and Information Services
Position	Data Steward
End date of contract	Permanent position
Guarantee needed & added yes/no/n.a.	n.a.
E-mail address	[redacted]
ORCID ID	https://orcid.org/0000-0001-5482-8370

Name of the co-applicant	Dr. Anna E. van 't Veer
Affiliation – institution	Leiden University (LEI) & Open Science Communities the Netherlands (OSC-NL)
Affiliation – department	Methodology and Statistics
Position	Assistant Professor
End date of contract	Permanent position
Guarantee added yes/no/n.a.	n.a.
E-mail address	[redacted]
ORCID ID	https://orcid.org/0000-0002-2733-1841

Name of the co-applicant	Dr. Andrea Stoevenbelt
Affiliation – institution	University of Groningen (RUG)
Affiliation – department	Department Educational Science
Position	Assistant Professor
End date of contract	Permanent position
Guarantee added yes/no/n.a.	n.a.
E-mail address	[redacted]
ORCID ID	https://orcid.org/0000-0002-5546-4633

Name of the co-applicant	Marjolein Beumer, drs.
Affiliation – institution	Tilburg University (TiU)
Affiliation – department	Library and Information Services
Position	Manager Library
End date of contract	Permanent position
Guarantee added yes/no/n.a.	n.a.
E-mail address	[redacted]
ORCID ID	-

Name of the co-applicant	Hanne I. Oberman, MSc.

Affiliation – institution	Utrecht University (UU)
Affiliation – department	Department Methodology and Statistics
Position	Junior Assistant Professor
End date of contract	Permanent position
Guarantee added yes/no/n.a.	n.a.
E-mail address	[redacted]
ORCID ID	https://orcid.org/0000-0003-3276-2141

Name of the co-applicant	Dr. Lena Karvovskaya
Affiliation – institution	TU Delft (TUD)
Affiliation – department	TDCC Natural and Engineering Sciences
Position	Community Coordinator
End date of contract	[redacted]
Guarantee added yes/no/n.a.	yes
E-mail address	[redacted]
ORCID ID	https://orcid.org/0000-0001-7777-5603

Name of the subcontractor	Dr. Chris Hartgerink
E-mail address	[redacted]
Organisation	Liberate Science GmbH
ORCID ID	https://orcid.org/0000-0003-1050-6809

Section 2: Summary

Proposed project title	InfraCoalition: A coalition to transform an alternative platform into infrastructure
Project duration (in months)	48 months

English public summary

The InfraCoalition unites to transform ResearchEquals from a centralized modular publishing platform into deployable open infrastructure that institutions can independently operate. This grassroots initiative strengthens research autonomy by creating a digital public good for research discovery, collaboration, and publishing. We connect scholarly content to social media and online communities using ActivityPub, making research more accessible beyond academia. We build local institutional relationships to pinpoint adoption challenges and embed our technical work. We conduct technical audits and pilot concrete business models to ensure long-term viability of this digital public good.

Word count EN-SUM (max 100): 89

Dutch public summary

De InfraCoalition verenigt zich om ResearchEquals, een gecentraliseerd publiceerplatform voor onderzoeksmodules, in een open infrastructuur te veranderen die instellingen zelfstandig kunnen implementeren

en aanwenden. Dit initiatief versterkt onderzoeksautonomie door een “digital public good” te implementeren voor het vinden van, samenwerken aan, en publiceren van onderzoek. We verbinden wetenschappelijke content met sociale media die ActivityPub gebruiken, waardoor onderzoek toegankelijker wordt buiten de academische wereld. We ontwikkelen lokale institutionele betrekkingen om de infrastructuur te verankeren en invoeringsuitdagingen in kaart te brengen. Met technische audits en het testen van concrete bedrijfsmodellen versterken wij de toekomstbestendigheid van dit "digital public good”.

Word count NL-SUM (max 100): 97

Section 3: Alignment with the scope of the call

3.1 Vision for the project and alignment with the aim of this call
Word count SEC31 (max. 200): 184

Research and free information as pillars of a democratic society are increasingly under attack. Our grassroots coalition is taking decisive action to protect research infrastructures from undue, external influence. Collectively, we develop an open infrastructure to discover, collaborate, and publish research for institutions to operate themselves.

To realize this collective work, we transform the alternative publishing platform ResearchEquals [2] into a standalone open research infrastructure that institutions can easily install. Launched in 2022, ResearchEquals is one of few existing modular publishing platforms [3] but it remains a single point of failure – without it, interdependent infrastructure would seize to function. Our transformation into **ResearchEquals 2.0** will make it a digital public good [4] that institutions can progressively adapt to advance their own research interests.

ResearchEquals 2.0 will be interoperable with the existing research ecosystem and beyond. Anyone who uses the social web (for example, Mastodon, PeerTube) will be able to interact with researchers using an installation of ResearchEquals 2.0. In return, researchers can directly engage in conversations beyond their academic walls, opening new opportunities for collaborations, insights, and avenues for different ways of doing research.

3.2 User communities, challenges and needs
Word count SEC32 (max. 300): 270

By providing ResearchEquals 2.0 as a local service to discover, collaborate, and publish research, institutions serve a range of user communities.

Researchers will be able to act on their increasingly vocal calls for digital autonomy and independence from Big Tech [6, 7]. They also need services that improve their efficacy in research, not ones that hurt it. Local services are more realistically adapted to fulfil local needs, with potential benefit across institutions when these adaptations are incorporated in the infrastructure itself.

Journalists, non-professional researchers, and others interested in research will be closer to where professional researchers do their daily work. Integrating with the social web will make scholarship more easily discoverable through existing apps such as Mastodon, which has 1.2 million monthly active users.

Institutional IT staff will be assured that services can transparently be audited and made compliant with internal security and legal standards (for example, ISO/IEC27001 and GDPR). With the EU Cyber Resilience Act [8] coming into effect in 2027, compliance of open infrastructures deployed as local services is a priority for this user community.

Librarians will be assured that their patrons are not exposed to excessive surveillance risk. Currently, known data brokers provide critical research services (for example, the search database Scopus [5]). Local and more privacy respecting services will be easier for librarians to wholeheartedly recommend to patrons.

Cutting across specific user communities and the technical benefits of ResearchEquals 2.0, we will communally set the agenda together with the different user communities. In that way, we develop not only the technical infrastructure to serve user communities but also the social infrastructures to meaningfully inform that work.

3.3 Alignment of project with OS principles
Word count SEC33 (max. 300): 298

Our grassroots coalition is united by a shared passion for working openly. We are grounded by:

- **being open by default** – all outputs are made available with permissive licenses
- **building in public** – in progress work is an opportunity to invite early feedback

- **paying it forward** – we are active participants in a wider open ecosystem
- **empowering active participation** – making open meaningfully accessible

We implement open principles by:

- **integrating widely adopted open protocols for federating content** (that is, W3C's ActivityPub protocol)
- **scaling small** and directly engaging with local user communities [9]
- **becoming a certified digital public good** per the DPGA
- **being interoperable with existing open infrastructures** (for example, Research Organization Registry, OpenAlex, Crossref, ORCID, ARK)

Our approach aligns with the UNESCO Recommendation on Open Science, the United Nations Open Source Principles, and the Principles of Open Scholarly Infrastructure. We will publicly evaluate our performance according to these principles on a yearly basis. This helps us continuously reproduce the open behaviours we want to see in this project and not take them for granted at any given time.

Our project also supports specific policies such as UNL's Open Science Agenda [10] on *federating research content* and the National Plan Open Science 2030 [11] on *engaging societal actors beyond academia*. In recent years, the open protocol ActivityPub has become the de facto standard for federating any kind of content. Hence, we believe using ActivityPub will allow us to realize both UNL's and NPOS' ambitions in one go.

Finally, as participants in the wider open ecosystem, we will evaluate the implications of ongoing developments during 2026-2030. This will keep our project dynamic, adapting to the rapidly evolving threats to science. For example, today the perceived reliability of critical services such as PubMed is seriously called into question [12], which was unthinkable a year ago.

3.4 Access policy

Word count SEC34 (max. 150): 146

The source code for ResearchEquals 2.0 is provided under a MIT license (OSI Compliant) in a public `git` repository (for example, GitHub or Codeberg), allowing it to be accessed and repurposed by anyone at no cost and at no further legal risk.

Deploying ResearchEquals 2.0 comes with associated server costs starting at ~€10/month; we estimate a small server to reliably host around 10 users. Exact server and storage costs will be the responsibility of the systems administrator.

Installations of the infrastructure can be selected to be

1. open to all
2. moderated based on pre-set rules (for example, allowing registrations from a specific institutional email)
3. moderating registrations directly

Within this project, we provide the latest version of the infrastructure on https://researchequals.com (in collaboration with Liberate Science GmbH), available for anyone for free. Liberate Science GmbH will provide this website beyond the duration of this project.

3.5 (Inter)national ecosystem

Word count SEC35 (max. 200): 170

ResearchEquals 2.0 as open infrastructure will:

1. **connect to the ActivityPub infrastructure ecosystem** (for example, Pixelfed, Mastodon)

   a. Ecosystem value: We diversify the ActivityPub ecosystem with research content and research audiences. We participate in the global ActivityPub discussions, providing more researcher perspectives in the discussions to evolve the protocol.
   b. How: We use open-source Software Development Kits (SDKs; for example, Fedify, PubKit) to implement the open protocol.
2. **integrate open metadata service OpenAlex** [13]
   a. Ecosystem value: Provide a valuable end-user interface for the largest open metadata service (>260 million outputs), reducing dependencies on Scopus and Web of Science for literature searches.
   b. How: Create a balanced search interface that directly presents the most valuable metadata available in OpenAlex, through intense testing with researchers
3. **provide multiple Persistent Identifier (PID) options** for research outputs
   a. Ecosystem value: Provide equitable access to creating PIDs [14] and decrease the reliance on Digital Object Identifiers (DOIs) as the only valuable PID.
   b. How: Implement registration of Archival Resource Keys (ARKs) and Crossref DOIs.

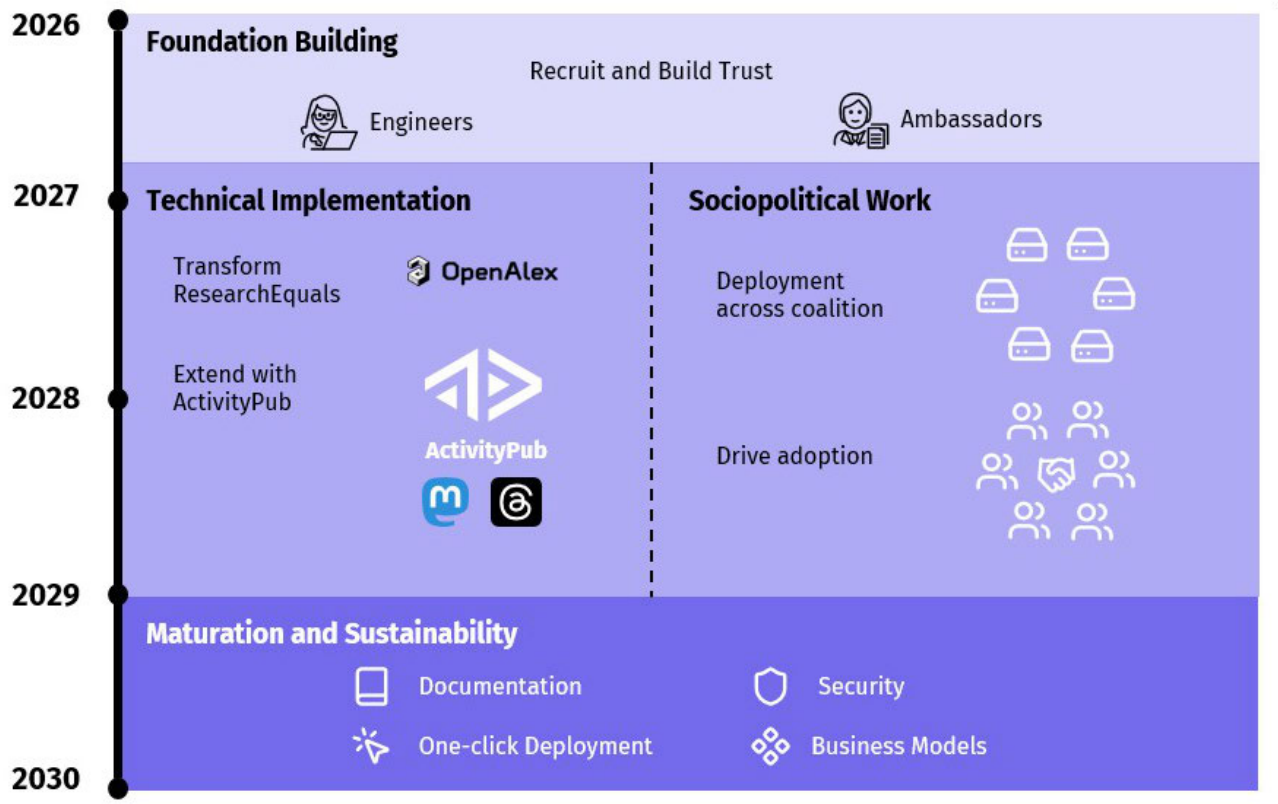
Section 4: Feasibility

4.1 Project plan
Word count SEC 41 (max. 750): 680 (text) + 39 (image) = 716

Our 48-month project transforms ResearchEquals into a flexible, open research infrastructure that institutions can deploy and adapt to their specific needs. Building on ResearchEquals' success since 2022 as a free to use open access platform with 230 published research modules, we create version 2.0 as an independent, institution-operated solution for discovering, collaborating on, and publishing research.

Foundation Building (Months 0-6)
We begin by assembling and orienting our distributed team. This phase involves recruiting ten junior staff (four Infrastructure Engineers and six Infrastructure Ambassadors at .25FTE each), signing the subcontract, and onboarding three Senior Project Officers to jointly coordinate the coalition. Co-applicants (or their delegates) will serve as the oversight board, dedicating four hours monthly to guide the project's direction.

During the foundation building, we establish remote collaboration norms, develop shared onboarding guides, and create detailed workstream plans. We start the fortnightly coalition meetings to brainstorm activities, provide updates on local progress, and coordinate our efforts. These coalition meetings are a forum to support local activities and stimulate a creative environment to adapt to local problems. During this phase, we also start our monthly progress reports on our (future) website https://infracoalition.com.



Parallel Workstreams (Months 7-36)

Technical Implementation

The technical implementation of ResearchEquals 2.0 as a deployable infrastructure involves two key stages.

First, our Infrastructure Engineers will work with the ResearchEquals team to create an inventory of necessary changes to make the platform independently deployable. This transformation includes removing proprietary dependencies, standardizing deployment processes, creating validated technical documentation, and ensuring the platform can be hosted on commercially available servers with minimal effort. During this process, we also work to align with the ResearchEquals development roadmap, which continues independent from the coalition's work.

The subsequent extension stage focuses on integrating the infrastructure with the social web through comprehensive ActivityPub implementation. Features will be introduced incrementally, enabling cross-service functionality like following researchers and sharing content across platforms.

Sociopolitical Work

We enrich the technical implementation with local institutional work to **deploy** and **adopt** the infrastructure. This directly sustains and embeds the technical work.

Infrastructure Ambassadors build and maintain critical relations to drive **deployment** across the coalition members. The Ambassadors' work follows a cyclical pattern: They help local staff pinpoint a meaningful deployment hurdle (for example, no capacity to maintain an installation), engaging stakeholders and coalition to find remedies (for example, provide managed hosting), go back to the local staff to pinpoint a next hurdle, restarting the cycle. Through this, we map six case studies towards deploying ResearchEquals 2.0 as an institutional service.

Upon local deployment, ambassadors shift to canvasing their institutional research community to drive **adoption**. By knocking on doors and engaging researchers about their daily practices, ambassadors introduce this new local service. Ambassadors share continuous actionable feedback with the coalition to identify adoption challenges. This will inform enhancing the infrastructure for the local research community.

Maturation and Sustainability (Months 37-48)

The final phase focuses on ensuring the project's long-term impact.

We **mature** the project by conducting infrastructure audits. This will include verifying technical documentation, ensuring reliable one-click deployments, and penetration testing to harden technical security. Furthermore, special attention will be given to simplifying server updates (ensuring roll out of future releases) and simplifying server migrations (preventing vendor lock-in).

We establish project **sustainability** by providing concrete business models. By synthesizing our sociopolitical work, we will propose several business models to our local institutional contacts and engage them on viability. By doing this, we derisk business initiatives to provide ResearchEquals 2.0.

Beyond the Project

When successful, this project delivers readily reusable, tried and tested open-source infrastructure that institutions can deploy themselves or contract managed hosting services for. ResearchEquals 2.0 will be resilient to corporate acquisition through built-in server and user migration capabilities, provide digital autonomy for the institutions that run it, and remain sustainable beyond any single organization.

Institutions outside our initial coalition will benefit from the investment in this infrastructure, able to freely deploy their own instances. Liberate Science will continue to host their instance and provide managed hosting services for

organizations unable to self-host, ensuring the infrastructure remains accessible, available, and maintained beyond 2030.

4.2 Team composition

Word count SEC42 (max. 350): 309

Name, surname	Affiliation	Expertise	Role/contributions
Dr. N (Nami) Sunami	TU/e	Experienced data steward and community maintainer for ResearchEquals	Senior Project Officer
Dr. A. (Anna) E. van 't Veer	Leiden University	Chair of Open Science Communities The Netherlands, recipient of the inaugural Leo Waaijers Award, more than 10 years experience with behavioral change to open science	Senior Project Officer, Oversight board member
To be hired	TU/e	Convening and motivating the coalition	Senior Project Officer
To be determined	TU/e	Project conscience and first point of contact for logistics	Oversight board member
Dr. A. (Andrea) Stoevenbelt	University of Groningen	Meta-scientist with expertise on psychological measurement	Oversight board member
drs. M. (Marjolein) Beumer	Tilburg University	Library Head driving digital innovation of heritage collections	Oversight board member
H. (Hanne) I. Oberman, MSc.	Utrecht University	Statistician, open-source developer, co-chair of Open Science Community Utrecht, and community organizer with rainbowR	Oversight board member
Dr. L. (Lena) Karvovskaya	TU Delft	Professional scientific community manager at Thematic Digital Competence Centre for the Natural & Engineering Sciences (TDCC-NES)	Oversight board member
Dr. C.H.J. (Chris) Hartgerink	Liberate Science GmbH	Principal Engineer for ResearchEquals and administrator of Mastodon server akademienl.social	Subcontractor (ResearchEquals software development; Liberate Science GmbH)
To be hired	TU/e	Software development	Infrastructure Engineer
To be hired	Leiden University	Software development	Infrastructure Engineer
To be hired	University of Groningen	Software development	Infrastructure Engineer
To be hired	Tilburg University	Software development	Infrastructure Engineer
To be hired	TU/e	Local relationship building and stakeholder management	Infrastructure Ambassador
To be hired	Leiden University	Local relationship building and stakeholder management	Infrastructure Ambassador

To be hired	University of Groningen	Local relationship building and stakeholder management	Infrastructure Ambassador
To be hired	Tilburg University	Local relationship building and stakeholder management	Infrastructure Ambassador
To be hired	Utrecht University	Local relationship building and stakeholder management	Infrastructure Ambassador
To be hired	TU Delft	Local relationship building and stakeholder management	Infrastructure Ambassador

4.3 Risk management

Word count SEC43 (max. 250): 240

Risk	**Likelihood and impact**	**Risk mitigation strategy**
Institutional hesitance to deploy open infrastructures in general and ResearchEquals 2.0 specifically	*Likelihood: High* *Impact: Low*	*Institutional hesitance is informative about valid concerns in the transition to open infrastructures. We will patiently and collaboratively address these concerns, showing our commitment.*
ActivityPub integration takes more work than expected	*Likelihood: Low* *Impact: Low*	*We use existing ActivityPub software development kits to reduce integration risk (for example, Fedify). Remaining integration delays are contained to specific features – they do not delay integration of other features.*
Recruitment delays beyond months 1-6	*Likelihood: Medium* *Impact: Low*	*We start recruitment immediately after funding is announced. Delays can be ameliorated by increasing capacity commensurate to delays (for example, .5FTE for 2 years instead of .25FTE for 4 years).*
Delays due to lengthy tender process for subcontracting (subcontracting amount surpasses EU limit of €221,000)	*Likelihood: Low* *Impact: High*	*TU/e's procurement department verified legal pathways to speedy subcontracting, process takes ~10-20 days (Dynamic Purchasing System; DPS).*
Lack of formal management relations within coalition	*Likelihood: High* *Impact: Low*	*We convene the coalition as a cooperative of equals, sharing decision making and responsibility for achieving our goals. For specific responsibilities, we use RACI roles (**R**esponsible, **A**ccountable, **C**onsulted, and **I**nformed).*
Limited event attendance due to the lack of event budget	*Likelihood: High* *Impact: Low*	*We continuously communicate about project progress on a dedicated website. We focus on local organizing, which requires time – which **is** budgeted for.*

4.4 Budget

Position	HOT scale	Institu-tion	Total FTE	Years active	Amount
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	TU/e	0.88	4	€ 69,951.88
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	LEI	0.88	4	€ 69,951.88
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	RUG	0.88	4	€ 69,951.88
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	TiU	0.88	4	€ 69,951.88
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	UU	0.88	4	€ 69,951.88
Infrastructure Ambassador (.25 FTE; months 6-48)	HOT 2.1 - 9	TUD	0.88	4	€ 69,951.88
Infrastructure Engineer (.25 FTE; months 6-48)	HOT 2.1 - 9	TU/e	0.88	4	€ 69,951.88
Infrastructure Engineer (.25 FTE; months 6-48)	HOT 2.1 - 9	LEI	0.88	4	€ 69,951.88
Infrastructure Engineer (.25 FTE; months 6-48)	HOT 2.1 - 9	RUG	0.88	4	€ 69,951.88
Infrastructure Engineer (.25 FTE; months 6-48)	HOT 2.1 - 9	TiU	0.88	4	€ 69,951.88
Senior Project Officer (.4 FTE)	HOT 2.1 - 11	TU/e	1.60	4	€ 160,432.00
Senior Project Officer (.4 FTE)	HOT 2.1 - 11	LEI	0.80	4	€ 80,216.00
Senior Project Officer (.4 FTE)	HOT 2.1 - 11	TU/e	0.80	4	€ 80,216.00
Oversight board member (.025FTE)	HOT 2.1 - 13	TU/e	0.10	4	€ 13,279.00
Oversight board member (.025FTE)	HOT 2.1 - 13	LEI	0.10	4	€ 13,279.00
Oversight board member (.025FTE)	HOT 2.1 - 13	RUG	0.10	4	€ 13,279.00
Oversight board member (.025FTE)	HOT 2.1 - 13	TiU	0.10	4	€ 13,279.00
Oversight board member (.025FTE)	HOT 2.1 - 13	UU	0.10	4	€ 13,279.00
Oversight board member (.025FTE)	HOT 2.1 - 13	TUD	0.10	4	€ 13,279.00

Material/IT Type	Description	Cost calculation	Total (€)
work performed by third parties	ResearchEquals software development contract with Liberate Science GmbH	circa 610 hours/year at €150 for four years (or cost equivalent)	€ 366,000.00

Total Personnel requested: €1,100,056.75
Total Material/IT requested: €366,000.00
Total budget requested: €1,466,056.75

4.5 Budget justification
Word count SEC45 (max. 300): 251

Oversight Board Members (6 × 0.025 FTE): The oversight board serves as the project conscience and as the first point of contact for logistics at their respective institution. The allocated budget ensures availability for preparation and participation in the two-weekly convenings. We budget this at HOT 2.1 - 13 to ensure .025 FTE across variable roles and seniority of members.

Subcontractor Liberate Science GmbH (~610 hours/year): Integral to the technical developments in the project proposal. They built the original version of ResearchEquals and are critical to implementing ResearchEquals 2.0 as outlined in this proposal. The budget funds their Principal Software Engineer.

Senior Project Officers (1 × 0.4 FTE, 2 × 0.2 FTE): Form the leadership team and jointly convene the entire coalition on a two-weekly basis, oversee project progress, and motivate the coalition. They are also responsible for maintaining

the website and jointly writing the monthly progress reports. We budget three positions: One core position at .4FTE and two additional positions at .2FTE.

Infrastructure Engineers (4 × 0.25 FTE, months 6-48): Recruited at coalition institutions to build local capacities for contributing to ResearchEquals 2.0 and reduce reliance on third parties. Engineers also create documentation to scaffold future infrastructure contributions.

Infrastructure Ambassadors (6 × 0.25 FTE, months 6-48): Recruited at coalition institutions to create networks among the different local user communities and convey their needs in the coalition convenings. Ambassadors creatively seek to understand infrastructure needs, find pathways to get institutional trials or commitments to deploy ResearchEquals 2.0, and write case studies.

4.6 Impact plan

Word count SEC46 (max. 200): 191

Research Impact

We provide one-click deployments of ResearchEquals 2.0, empowering anyone to host their own research environment. This expands availability beyond well-resourced institutions to individuals who may traditionally not be considered researchers (for example, citizen scientists, biohackers).

With ActivityPub integration, we make research more easily discoverable beyond academia. We track the impact by collecting federation analytics. In addition, Ambassadors conduct impact interviews with six researchers using ResearchEquals 2.0 to qualify how federation is affecting their daily research during the adoption work.

Social Impact

As pressures to decrease dependencies on U.S. providers are rising in the current political climate, there is an increasing demand to host digital infrastructures on a European technology stack [EuroStack; 15]. To stimulate this development, our Engineers use European alternatives [16] and produce three tutorials on architecting, managing, and updating open-source, EuroStack infrastructures.

Business Impact

By piloting, developing, and championing concrete business models for providing infrastructure services, we derisk businesses serving this market. We create a tool to estimate operating costs for a ResearchEquals 2.0 installation, which will help organizations assess whether their budget permits locally operating the infrastructure.

Through these activities, we "scale small" but impact widely.

Section 5: Sustainability and software management

Section 5.1: Sustainability plan
Word count SEC51 (450): 268

Our project yields three critical outcomes requiring long-term sustainability planning: (1) software infrastructure, (2) comprehensive documentation, and (3) operational reliability. Each outcome demands specific resources and strategies to ensure viability beyond the grant period.

Software Infrastructure
ResearchEquals 2.0 requires ongoing maintenance to prevent code deterioration and address security vulnerabilities. Liberate Science has committed to serving as the infrastructure's "maintainer of last resort" post-grant (see also 5.2.11), providing:

- Security updates
- Dependency management
- Triaging public bug reports
- Regular version releases following Semantic Versioning 2.0 standards

Comprehensive Documentation
Our sustainability strategy maintains three documentation types in public `git` repositories under CC0 Public Domain Dedication:

- User guides
- Development documentation
- Server documentation

These three types of documentation are detailed in section 5.2.5. Our open approach enables external contributions to add fixes over time after the formal support period ends. All documentation will be reviewed and updated by the technical maintainers upon each major and minor release.

Operational Reliability
As institutions deploy ResearchEquals 2.0 within their service offerings, operational reliability becomes paramount. We offer multiple sustainability paths, which apply to cloud solutions and on-premise hosting:

- *Self-maintenance*: Institutions can independently maintain instances using the comprehensive developer and server documentation
- *Contracted support*: Organizations can engage Liberate Science for ongoing technical expertise
- *Third-party engineering*: Institutions can contract external software engineers to maintain local infrastructure customizations

In addition, the coalition will contract Liberate Science during the grant period to develop a managed hosting service, providing cost-effective options for organizations with limited resources.

By combining a long-term maintenance fallback, regular documentation updates by technical maintainers, and flexible operational models, ResearchEquals 2.0 establishes sustainable pathways well beyond the grant period.

Section 5.2: Software management plan
1. Please provide a brief description of your software, stating its purpose and intended audience.
We develop ResearchEquals 2.0, an open infrastructure to discover, collaborate, and publish research. This infrastructure is intended for research conducting organizations (of any size) and their staff.

2. How will you manage versioning of your software?
We use the distributed version control system `git` to track changes to the source code. We release stable versions in accordance with the Semantic Versioning 2.0 standard, following the `MAJOR.MINOR.PATCH` format:

- "MAJOR version when you make incompatible API changes"
- "MINOR version when you add functionality in a backward compatible manner"
- "PATCH version when you make backward compatible bug fixes"

Each stable release is accompanied by a changelog documenting the changes since the most recent release. These changes are broken down in the following categories (as copied from Keep A Changelog v1.1.0):

- `Added` for new features.
- `Changed` for changes in existing functionality.
- `Deprecated` for soon-to-be removed features.

- `Removed` for now removed features.
- `Fixed` for any bug fixes.
- `Security` in case of vulnerabilities.

3. How will you make your software publicly available? What licence will your software have?
We share the source code on a public `git` server (for example, GitHub or Codeberg). All software we produce is or will be released under an MIT license (compliant with the Open Source Initiative; OSI). Contributions to upstream libraries will only happen if these are OSI compliant.

4. How will users of your software be able to cite your software?
We include a Citation Format File (CFF) in our `git` repository to clarify how the software is to be cited. For each stable release, we automatically archive the source code to a repository that generates a Persistent Identifier (for example, Zenodo or 4TU.ResearchData).

5. How will your software be documented? Please describe your plans for: user documentation, documentation for future developers and for installation requirements. Please provide links to documentation if already available.
We will provide (1) user guides, (2) development documentation, and (3) server documentation.

1. *User guides* will include step-by-step tutorials on using ResearchEquals 2.0. Existing guides will be upgraded to reflect software changes. Infrastructure Ambassadors will write additional guides to ensure they cover the range of features. These guides will be tested with end-users to ensure they are practical.
2. *Developer documentation* will include all information needed to meaningfully contribute to ResearchEquals 2.0. This will include general information around software architecture, setting up the recommended development environment, and the contribution guidelines. Infrastructure Engineers will use and extend the documentation for developing, deploying, and adopting the infrastructure.
3. *Server documentation* will include step-by-step instructions to setting up and managing a ResearchEquals 2.0 installation. Among other things, it will include instructions on preparing the server, securing the server, setting up a fresh installation, migrating across stable releases, and scaling a server.

The source for the documentation will be hosted in a public `git` repository, enabling external contributions (for example, via submitting issues and pull requests). The documentation will be made available under a CC0 Public Domain Dedication and available at https://docs.researchequals.com. Existing documentation will be upgraded.

6. How will contribution guidelines and governance structure of your software be documented?
Contribution guidelines are added to the developer documentation and linked to from a CONTRIBUTING file in the `git` repository. We include separate guidelines for security contributions, to enable responsible disclosure and the safeguarding of people affected by the security vulnerability (see this example Responsible Disclosure Policy an example of how not to handle a reported security disclosure). The entire project is subject to the ResearchEquals Code of Conduct.

The coalition's governance structure will be documented on https://infracoalition.com (domain registered, website not available yet). Technical governance of the software is managed by the maintainers of the repository, who decide how and when code changes are included and released – this will be documented in the `git` repository and on the developer documentation pages.

7. How will your software be tested?
ResearchEquals 2.0 will be tested on functional, deployment, security, and data handling aspects. We will implement:

- Automated testing through CI/CD pipelines to ensure code quality
- Unit tests for individual components
- Integration tests for service interactions
- End-to-end tests for complete workflows.

Performance and security testing will verify the application functions correctly under various loads and remains protected against common vulnerabilities, following OWASP guidelines.

For deployment testing, we will validate installation procedures across different environments to ensure self-hosting capabilities work consistently for research organizations of any size. All testing procedures will be documented in our developer documentation, and test results will be tracked to monitor improvements over time. This testing framework aligns with our commitment to providing reliable, secure open infrastructure for research discovery, collaboration, and publication.

8. How will you check that it respects the licences of libraries and dependencies it uses?
We create a software bill of materials (SBOM) of direct dependencies used in ResearchEquals 2.0, which we review on a quarterly basis. For contributions introducing new dependencies, we require they must have an OSI compliant license at the time of introduction.

9. How will your software be packaged and distributed?
ResearchEquals 2.0 is distributed on a public `git` server (for example, GitHub or Codeberg), with tagged releases for stable versions. For each release, we create an Open Container Initiative (OCI) compliant container image (for example, a Docker image), which we post to a public container registry (for example, Docker Hub or GitHub Container Registry).

10. What level of support will be provided for users of the software and how will this support be organised?
We differentiate between (1) *system administrators*, who operate ResearchEquals 2.0 as infrastructure, and (2) the users on that server.

1. System administrators will receive support from Infrastructure Engineers and the subcontractor during the runtime of this grant (2026-2030). After the grant concludes, the previously mentioned server documentation will remain available.
2. End-users of local installations of the service can utilize the user guides and join a community support chat. Additionally, we will provide direct support with Infrastructure Ambassadors during the runtime of this grant (2026-2030).

11. How do you plan to ensure long term maintenance of your software?
Liberate Science is committed to being the “maintainer of last resort” for at least ten years after the end of this grant, given sufficient adoption of the infrastructure at the end of this project.

Section 6: References

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Section 7: Declaration

By submitting this form, I declare that:

- I and all the individuals involved in this proposal satisfy the nationally and internationally accepted standards for scientific conduct as stated in the Netherlands Code of Conduct for Research Integrity (The Universities of the Netherlands).
- The research organisation has been informed of this grant application and the research organisation accepts the grant conditions of this programme.
- I have completed this application form truthfully.
- I have submitted a pre-proposal for this Call for proposals in ISAAC.