Section 1 – Applicant(s)

Name of the main applicant	Dr. Nami Sunami
Affiliation – institution	TU Eindhoven
Affiliation – department	Library and Information Services
Position	Data Steward
End date of contract	Permanent position
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Name of the co-applicant	Dr. Anna van 't Veer
Affiliation – institution	Leiden University
Affiliation – department	Methodology and Statistics
Position	Assistant Professor
End date of contract	Permanent position
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Name of the co-applicant	Dr. Andrea Stoevenbelt
Affiliation – institution	University of Groningen
Affiliation – department	Department Educational Science
Position	Assistant Professor
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Name of the co-applicant	Dr. Daan Rutten
Affiliation – institution	Tilburg University
Affiliation – department	Library and Information Services
Position	Department head
End date of contract	Permanent position
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Name of the co-applicant	Hanne I. Oberman, MSc.
Affiliation – institution	Utrecht University
Affiliation – department	Department Methodology and Statistics
Position	Junior Assistant Professor
End date of contract	Permanent position

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Name of the co-applicant	Dr. Lena Karvovskaya
Affiliation – institution	VU Amsterdam
Affiliation – department	Research Data Support
Position	Community Manager Research Data Management and Open Science
End date of contract	Permanent position
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Section 2 - Summary	
Proposed project title	InfraCoalition: A coalition to transform an alternative platform into infrastructure
Project type	Large
Project duration (in months)	48 months

Section 3 – Project description

3.1 Alignment of your project with the aim of the call

Current research infrastructures in the Netherlands for sharing and publishing are fragmented and often provided by external service providers. To truly transform the research landscape into an open, community-based, value-driven future, more services need to be locally developed and provided. As an initial coalition of six, we work towards research institutions collectively developing and locally providing their own critical services, starting with discovery, storage, and publishing services. Developing open-source services together provides economies of scale, while also permitting "scaling small" to a local setting.

We propose a four-year, €1.5 million project to transform an existing, alternative publishing platform into readily deployable open infrastructure for research institutions of any size. Alternative publishing platforms "represent a move away from the traditional journal as an organising principle" but risk moving towards the "platform principle" where an outside legal entity owns the data. This is what surveillance capitalism is based on and risks exacerbating harm (for example, Meta, Alphabet). Corporate acquisitions of platforms are one way such harm manifests. For example, Pure was acquired by a corporation after their initial success, making that platform's user data available to a previously uninvolved third-party, who can seek to exploit that data. By transforming an existing, alternative publishing platform into a readily deployable open infrastructure, we increase resilience to corporate acquisitions, while also strengthening the digital sovereignty of research institutions.

In transforming an alternative publishing platform into deployable and sovereign infrastructure, we work towards one seamless, low-cost research environment for discovering, storing, publishing, and evaluating research outputs. Currently, institutions need to run or contract one service for each functionality. For example, Scopus for discovery, Figshare for their repository, OJS for diamond open access publishing, and Pure for evaluation. Moreover, after the considerable effort to run and contract these services, they remain not interoperable or easily accessible to the outside world. Contracted services also each come with their own terms, which further risks surveillance capitalism. Our project's unique proposition is to provide a seamless, open-source, research environment that integrates critical research services and builds on open metadata, following the Barcelona Declaration.

Beyond transforming this alternative platform into alternative infrastructure, we extend it to be interoperable between institutions and the wider social web. We federate this infrastructure using the World Wide Web Consortium's (W3C) open standard, ActivityPub, making it interoperable within and beyond the research ecosystem. This serves researchers, connecting institutions and opening new avenues of science communication. It serves society by creating more ways for societal engagement with research. For example, this means that research shared on institutional infrastructure will be directly accessible on Mastodon and Threads by Meta.

Each coalition partner works within their local institution to progressively adapt and enhance this alternative infrastructure to the institution's needs and the needs of its researchers. We introduce local "Infrastructure Engineers" and "Infrastructure Ambassadors" who put "scaling small" and "local care" into practice. By doing so, we expand the technical and social capacity to readily deploy this open infrastructure in the most practical terms. The observations and challenges of doing so are part of the coalition dialogue, where we identify common and local issues. Together, we work to resolve these issues and share our journey on the project website.

We take concrete steps to realize a meaningful alternative that prioritizes community over commercialization. With this project, we offer institutions and their staff a way to provide the critical research services of discovering, storing, and publishing research outputs themselves.

3.2 Project plan

We transform and extend the alternative open-source publishing platform ResearchEquals. Launched in 2022, this service is one of the few established alternative publishing platforms (216 published research modules as of November 1st, 2024). It is diamond open access and incorporated community governance early on (which includes VU, Tilburg University, and Open Science Community Leiden). We work directly with the ResearchEquals team to realize the project (contracting them for 1FTE equivalent at Principal Software Engineer level). In 2025,

ResearchEquals is releasing version 2.0 of the platform, preparing it to be the launchpad for the integrated research environment that we are looking to transform and extend within this project.

The foundational work (months 1-6) is to recruit staff and build trust within the coalition. We will recruit ten junior staff (four Infrastructure Engineers and six Infrastructure Ambassadors) with a .25FTE buyout for the duration of the project. Engineers will work on the infrastructure directly; Ambassadors work to build up local relations to implement and adopt the infrastructure. We provide two senior staff with .4FTE buyout, who will be responsible for convening the coalition, overseeing project progress, and motivating the coalition. All co-applicants dedicate four hours per month to this project (.025FTE) and serve as an oversight board within the project.

The technical implementation happens in two sequential stages: **Transformation** (months 6-12) and **extension** (months 12-36). The **transformation** stage focuses on ensuring the platform becomes readily deployable infrastructure. Infrastructure Engineers and the ResearchEquals team create an inventory of the changes needed to independently run the software (for example, removing proprietary dependencies, standardizing deployment) and implement these changes. Subsequently, the infrastructure can be deployed and updated on commercial servers with minimal effort (for example, Microsoft Azure). The **extension** stage will focus on progressively extending the infrastructure by integrating it with the social web. There are many components to a comprehensive ActivityPub integration, which will be introduced piece by piece (for example, follow across services, posting across services).

Parallel to the technical implementation, we "scale small" by working with local communities to **deploy** and **adopt** the infrastructure (months 6-48). During the **deployment** stage, Infrastructure Ambassadors build relations with local IT and Library departments to identify institutional and practical hurdles to locally offer the infrastructure. Issues and challenges identified by the ambassadors are worked on with the Infrastructure Engineers and the ResearchEquals team, to progressively make the infrastructure more readily deployable at each local institution. If an institution deploys the infrastructure, then the ambassador works with the local research community to drive **adoption**. Ambassadors identify adoption issues and challenges, to progressively enhance the infrastructure for the local research community.

During the entire project (months 0-48), the coalition will meet fortnightly to brainstorm activities, provide updates on local progress, and coordinate efforts to progressively adapt the infrastructure. The coalition meetings are aimed at providing support to the local activities and creating a creative environment to adapt to local problems. The coalition also provides support to local ambassador's work in advocating for the infrastructure, providing ambassadors with support. At least every month, we share progress and challenges on the project website.

When successful, this project builds readily reusable, open-source infrastructure run by institutions themselves. It will be resilient to corporate acquisition due to direct support for migrating from one service provider to another, will provide digital sovereignty for the institutions that run the service, and be sustainable beyond any one organization. Other institutions who want to follow in the coalition's example, can do so freely, and benefit from the investments made in this project by OpenScienceNL.

3.3 Team composition

The project team comprises of 50% research staff (assistant professors) and 50% professional staff (community manager, head of research support, data steward) from across six institutions. Dr. van 't Veer is chair of OSC-NL (and recipient of the inaugural Leo Waaijers Award). Dr. Stoevenbelt is a meta-scientist with expertise on psychological measurement. Dr. Rutten creates and leads research support programs around open science. Oberman (MSc.) is a statistician, open-source developer, and community organizer with rainbowR. Dr. Karvovskaya is a professional scientific community manager and active in OSC Amsterdam. Dr. Sunami is an experienced data steward who is also a community maintainer for ResearchEquals. Our contractor, Dr. Hartgerink, is the Principal Engineer for ResearchEquals and administrator of Mastodon server akademienl.social.

Section 4 – Budget

Type of costs	Short explanation	Costs
Personnel costs	2.5FTE Junior position (Scale 9 HOT - €73,000 × 4 years) 1FTE Senior position (Scale 11 HOT - €92,000 × 4 years)	€1,098,000
Other costs	Technical development - Liberate Science GmbH (circa 610 hours/year at €150 for four years)	€ 365,634
Total request from NWO		***€1,463,634***

Section 5 – 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.