Research Software Alliance

Section 1. Proposal

1. Project aims

This proposal will support the [Research Software Alliance](#) (ReSA) to achieve its mission to bring research software communities together to collaborate on the advancement of the research software ecosystem. The objectives of this proposal are to:

1. Extend ReSA's research across the international research software community (including more geographical breadth) to achieve the joint vision that research software and those who develop and maintain it are recognised and valued as fundamental and vital to research worldwide.
2. Facilitate the ongoing establishment of new ReSA [task forces](#) to increase collaboration on community priorities.
3. Grow ReSA's organizational members to support ReSA's long-term sustainability planning.

2. What is the main issue, problem, or subject and why is it important?

[Research software is pervasive in modern research](#), enabling the generation, analysis and/or presentation of research outputs. Consequently, growing an international research software community is critical to advancing research impact and research infrastructure sustainability.

ReSA is supported by top global research infrastructure institutions to function as a backbone organization across the research sector to increase the community's ability to collectively achieve the shared vision that research software is recognised and valued as a fundamental and vital component of research worldwide. Backbone organizations enable collaboration in a synchronized effort across multiple stakeholders to achieve a common goal.

ReSA supports collective impact by providing the social infrastructure needed to foster the cross-organizational communication, alignment, and collaboration required to achieve sectoral change. ReSA's mission is to provide this for the research sector. There are a number of ways in which ReSA contributes to research software challenges where international and/or cross-disciplinary consensus would be valuable, ranging from software interoperability to the changing skill sets needed by research software developers.

ReSA's focus aligns with the vision of CZI's Open Science program of the universal and immediate open sharing of all scientific knowledge, processes, and outputs. ReSA can assist CZI in achieving its aims by creating a diverse, global community of organizations and individuals that are collaboratively championing and implementing best practice. ReSA's focus on a truly international community will also assist in accelerating research to improve understanding of discipline areas relevant to CZI, such as health and disease, by ensuring that research software practice continues to improve international collaboration and openness.

3. ReSA directions and plans for sustainability

A wide range of research software organizations and programs exist internationally to address the varied challenges in software productivity, quality, reproducibility, and sustainability. ReSA aims to coordinate across these efforts to leverage investments, to achieve shared goals, as detailed in the ReSA Strategic Plan.

ReSA plays a key role in facilitating convening of international bodies as needed, and to support the sharing of best practices that can improve the ability of communities to advance policy reform to better support technological and social infrastructures. Some of ReSA's achievements include:

1. As a lobbying organization that aims to influence a small number of key high-level stakeholders (such as international policy making bodies).
    a. Establishment of Research Software Funders Forum engaging over 30 funding organizations, and analysis of the research software funding landscape.
    b. Development of research software sharing guidelines for policy makers, funders, publishers and researchers in the Research Data Alliance COVID-19 Guidelines and Recommendations.
    c. Supporting the inclusion of software in the OECD Recommendation on Access to Research Data from Public Funding, which is soft law for OECD member states.
    d. Engagement with the UNESCO Recommendation on Open Science to include research software elements.
    e. Analysis of evidence for the importance of research software to support policy discussions and provide information for sharing with key influencers.

2. As a community enabler that facilitates projects across organizations. This includes as a coordinating body between national/regional, disciplinary or thematically-focused organizations that are working on related tasks.

a. Leadership of [FAIR for Research Software Working Group (FAIR4RS WG)](#) with the [Research Data Alliance (RDA)](#) and [FORCE11](#), to develop and guide adoption of community-endorsed FAIR principles for research software.

b. Coordination of [FAIR for Research Software Roadmap](#) to guide strategic planning and investment of implementation of the FAIR principles for research software across the sector. Initiatives progressing elements of the Roadmap include the [Metrics Working Group](#), [Life Sciences Working Group](#), and [FAIR for Virtual Research Environments (VREs) Working Group](#).

3. As a community forum supporting community-level discussions on priorities and goals.

a. The ReSA [People Roadmap](#) community consultation facilitated identification and prioritization of the major issues related to people (or personnel) challenges faced by the research software community, including research software engineers.

b. ReSA's [software landscape analysis taskforce](#) analysed the research software landscape to identify different communities, stakeholders and topics of interest.

ReSA is supported by the community through grants and its six [Founding Members](#), with income totalling USD$501,000 from 2019-2022. This is primarily used to support a part-time Director and a part-time Community Manager to lead the ReSA community and facilitate ReSA [task forces](#). In-kind support of $249,000 also provides ReSA with another part-time Community Manager and opportunities to co-lead initiatives with other organizations, such as the [International Funders Workshop: The Future of Research Software](#) with the Netherlands eScience Center. An [overview](#) of ReSA's income and expenditures is available for review on the ReSA website.

To assist in facilitating long-term sustainability, ReSA is launching an organizational membership model in September 2022 which aims to grow the number of memberships to provide income of $40,000 - $75,000 in 2023 (see [draft webpage](#)).

ReSA is also a partner of the Research Data Alliance (RDA) in recognition of our related missions. Whereas the Research Data Alliance (RDA) focuses on research data and the Research Software Alliance (ReSA) focuses on research software, there are many activities that involve both data and software, and thus coordination between the groups, particularly focused on synergistic activities, is beneficial to RDA and ReSA and their member communities, as well as to the activities themselves. This successful

partnership has included co-leadership (with [FORCE11](#)) of the development of [FAIR for Research Software Principles](#), and ReSA and RDA are currently discussing alignment of the Funders Forums that each organization convenes separately, but which have overlapping interests and membership.

4. Planned approach for this project

This proposal will provide support for ReSA to facilitate the following outputs:

1. Expansion of ReSA's personnel to include small community manager roles in Africa and Asia.
2. Continuation of ReSA community events and forums (particularly the [Research Software Community Forums](#)), and public communications ([newsletter](#), Slack channel, [twitter](#) and [blog](#)).
3. Increase in the visibility of ReSA at relevant international events.

This will assist in achieving increased information sharing and collaboration in the international research software community, to jointly solve challenges and reduce duplication. Significant effort is still needed to influence culture change towards research software across a broad spectrum of stakeholders, including researchers, institutions, funders, and publishers, and to develop and promote standards for developing research software that meets the needs of reliable, reproducible, and reusable research.

5. Additional detail on impact or priorities in the area of equity and diversity

This proposal aims to increase the geographical breadth of the ReSA community, and includes recruitment of small community manager roles in Africa and Asia to support this. These two regions have been prioritized as ReSA already has some useful links in North America, Europe, Latin America and Australia/Pacific through current staff.

ReSA's work to identify and engage with relevant potential community members in Africa and Asia include the following projects:

*   [Mapping](#) of research software communities and initiatives in the Global South identified more than 100 stakeholder organizations (analysis to be released shortly).
*   Co-leadership of the [International Funders Workshop: The Future of Research Software](#) in November 2022, with confirmed participants including: National Integrated Cyber-Infrastructure (South Africa); Science for Africa Foundation;

Japan Space and Science Agency; Indonesian National Agency for Research and Innovation; and Research Center for Open Science and Data Platform

- Co-convener of [Vive la différence - research software engineers](#), which involved participants from the Global South in an international workshop discussing how to place diversity, equity and inclusion at the heart of research software engineering.
- Collaboration with Francophone African research software community champions to submit a proposal to the [Code for Science and Society event fund](#) (unsuccessful) to promote the [FAIR for Research Software Principles](#) in Francophone Africa.

As per the [Code of Conduct](#), ReSA welcomes and encourages participation by people of all backgrounds and identities. ReSA has not had any Code of Conduct violations since its introduction in 2020.

It is also anticipated that some of the task forces and/or community events that ReSA initiates in 2023 will include diversity, equity and inclusion issues. 2022 ReSA engagements on this topic include:

- Co-convening of [Vive la différence - research software engineers](#), a hybrid workshop on centralizing diversity, equity and inclusion at the heart of research software engineering, and which was considered to be a [strong example](#) of an inclusive hybrid event.
- Convening discussions on the outcomes of [Vive la différence](#) in the Research Software Funders Forum and Research Software Community Forum.
- Talks at Asian-Pacific Advanced Network conference ([APAN53](#)) and submitted to Open Science South Asia Network ([OSSAN](#)) conference for later this year.
- Research Software Funders Forum discussion on the [ReSA People Roadmap](#), which included analysis of diversity, equity and inclusivity strategies and programs in the research software community.

Section 2. Budget

1. Detailed budget

Item	Total $USD
Director - Michelle Barker, part-time for 12 months	$45,000
Community Manager - Kimberley Hartley, part-time for 12 months	$25,000

Community Manager - Africa, 1.5 days/month for 12 months	$6,000
Community Manager - Asia, 1.5 days/month for 12 months	$6,000
Event registrations and travel	$3,000
Fiscal sponsorship fee to Code for Science & Society (15% of total)	$15,000
TOTAL	**$100,000**

2. Budget narrative

The budget includes four personnel. Fringe rates are included in their monthly base costs as these staff are contractors:

- ReSA Director (Michelle Barker): $45,000 part-time for 12 months. Responsible for project direction and operational management
- ReSA Community Manager (Kimberley Hartley): $25,000 part-time for 12 months. Responsible for event organization, communications and related infrastructure.
- ReSA Community Managers for Africa and Asia (TBC): $6,000 each for two roles for approximately 1.5 days/month for 12 months. Responsible for increasing inputs/involvement in ReSA communications/events relevant to their geographic area.
- Event registration and travel: $3,000 to register and occasionally travel to conferences/workshops relevant to provide information about ReSA to the broader community.
- Code for Science & Society: $15,000 for finance and administration services provided by ReSA's fiscal sponsor, who will receive and administer the grant.

The Africa and Asia Community Managers will need to be recruited. ReSA already has good networks that could provide applicants, as a result of the following collaborations:

- ReSA's mapping of research software communities and initiatives in the Global South involved 12 contractors in early 2022 (including 8 in Africa and Asia).
- Michelle Barker is on the Research Software Engineering (RSE) Asia Advisory Board and informally involved with mapping of the Research Software And Systems Engineers (RSSE) of Africa (which is as an Open Life Science project).
- ReSA co-convened Vive la différence - research software engineers, which included five participants from Africa and Asia.
- Collaboration with Francophone African research software community champions on submission of a proposal to the Code for Science and Society event fund.

3. Other sources of support

Confirmed support:

- ReSA Community Manager (Paula Martinez): $30,000 in-kind from Australian Research Data Commons part-time for 12 months. Responsible for event organization, communications and related infrastructure.
- ReSA Steering Committee Chair and co-convenor of Research Software Funders Forum (Daniel S. Katz): In-kind support from National Center for Supercomputing Applications for time in supporting ReSA strategy, task forces and events.

Section 3. Project staff CVs

Please find attached CVs for:

- Michelle Barker
- Daniel S. Katz
- Kimberley Hartley
- Paula Martinez