

Towards an international research software conference (version 2)

October 2024

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1. Introduction

ReSA is engaging with key stakeholders to identify and recommend one or more community-supported routes for convening the first-ever international research software conference, in 2025 or 2026 (and ideally annually thereafter).

This document outlines possible ways forward, with the aim of refining these ideas and identifying stakeholders who would be interested in shepherding the development of at least one of these ideas in 2025/26.

This scoping activity is supported by a [grant](#) from the Alfred P. Sloan Foundation. It should be noted that the convening of an event will ultimately be dependent on securing funding (which is outside of the scope of this grant) for this event by the organisations who will lead this event.

2. Background

This activity began by contacting relevant events (with a regional or thematic international focus) to gain their insights on opportunities, including leveraging of their existing community engagement. This resulted in an options paper, [Towards an international research software conference \(version 1\)](#) in July 2024, that was then used as the basis for discussion with a total

of 29 people from a range of existing events and invited organisations during three online meetings. [Towards an international research software conference \(version 1\)](#) also lists the organisations that were engaged at each stage, and considers issues related to the conference aim, leadership, business model, structure, and timing.

The inputs from these meetings were then synthesised to create a second version of the options paper (this document), for wider discussion that is planned for November 2024. These webinars will be open to anyone, and dissemination of information about the event will also specifically invite representatives of open source software events that have not been previously contacted, but that were identified during discussions as possibly relevant. These include the [Linux Foundation](#) (and foundations within it, such as the [High Performance Software Foundation](#)), [FOSSY](#), [ApacheCon](#), [SciPy](#) and [FOSDEM](#).

A final report will then be drafted and submitted to the Alfred P. Sloan Foundation by the end of 2024. Whilst this report is the final deliverable for the [grant](#) supporting this work, it is anticipated that the community discussions leading to this report will have identified stakeholders interested in continuing this work, who will take advantage of the momentum generated to proceed to then convene the proposed event.

3. Conference options

Three options are presented here for community consideration. These all share a common overarching aim of community building, but differ in the communities they focus on.

	Working title	Mode	Community building focus	Outcome	Community focus
A	International Research Software Community Conference (In RSC Con)	Hybrid annual conference	Engage key stakeholders within research software community	Improve collaboration and coordination	Internal - with existing research software community
B	Events About Research Software (EARS)	Sessions / workshops at multiple existing events	Engage with overlapping/new communities	Improve valuing of research software	External - to grow the research software community
C	Champions of Research Software (ChampRS)	In-person small event	Support emerging research software champions	Enlarge pool of leaders across research community	Mostly internal but the ability to include some external

These options were confirmed as not being addressed by existing events. These goals may currently be being achieved at national and disciplinary levels in some cases, but not at a global and domain-inclusive level. Consequently, international level strategies and activities may not occur; as well as silos and duplication of effort. However, given that there are already other events which the community engages in, any new event/s must provide clearly-stated added value. More details on each option is as follows.

A. International Research Software Conference (In RSC Con)

- A. Mode: Hybrid annual conference of 250+ people (could be fully remote in alternating years, and alternate between Global South and Global North locations when hybrid). Initial aim of 100+ in-person and 100+ online attendees, and expectation this will grow significantly in subsequent years as it becomes known as a highly valued event.
- B. Activity: Engage a wide range of the research software community, both within and across different types of stakeholders in the research ecosystem.
- C. Outcome: Improve collaboration and coordination across the research ecosystem. This could include enabling participants to find connection points; become part of larger efforts to learn from others; stimulate the development and adoption of relevant infrastructure, policies, training, communities and incentives, at scale.
- D. Community focus: Decision makers, leaders, changemakers and influencers from stakeholder groups that already recognise the value of research software, including research organisations/consortia, policy makers and funders, publishers and journals; research software infrastructures; research infrastructure providers (eg Zenodo); open source communities; industry partners; career, skills and training communities; and incentives initiatives.
- E. Exemplar/s of this approach:
 - a. [Intelligent Systems for Molecular Biology \(ISMB\)/ European Conference on Computational Biology \(ECCB\)](#) is a hybrid, annual event for the bioinformatics community.
- F. Benefits: Provides the community a single, dedicated event with a clear value proposition; breaks down silos internally; enables global focus; facilitates community functioning as a united whole; provides leadership opportunities to organisers; could enable inclusion of elements such as metascience for research software that is not yet included much elsewhere.
- G. Business model: Traditional conference, i.e. financial resourcing through event sponsorship, registration fees; in-kind support from key stakeholders for organising committee members' time, possibly the conference venue.
- H. Other:
 - a. This would differ from the existing annual hybrid [Research Software Engineering Con](#) (RSECon) as RSECon caters to all roles and skill levels, whereas the proposed new event has a community focus (see point D above) on decision makers, influencers etc. In practice, RSEcon also remains mostly UK-centric and RSE-centric in terms of attendees. [Towards an international research software](#)

[conference \(version 1\)](#) did pose the question on whether any existing events were scaling up their existing event in some way (such as to become this new event), or contributing to it in some way. One challenge in discussing this with RSECon is perhaps that their organising committee changes every year, making it difficult for committee members to feel able to speak about possible large changes to the future of RSECon.

- b. Given the aim of building a new community (of communities), it would be important to maximise opportunities for attendees to engage (particularly for those who will be remote).
- c. One suggestion was that the conference could evolve in such a way that submission to it became highly competitive, such that those accepted to share lessons at the event could use this to demonstrate their impact, and/or that the event could publish proceedings.
- d. For this option in particular, the event is likely to start much smaller than its eventual ambitions, and will take time to build to that.
- e. A hub and spokes model could also be possible to enable convening on in-person events across multiple geographic locations, combined with an online element.

B. Events About Research Software (EARS)

- A. Mode: Satellite sessions/workshops focused on research software at multiple existing events; either as part of the main conference program or as a co-located event. Individual events could be spread over in-person, hybrid and fully remote options. Numbers of attendees could vary widely. It would be expected that a satellite event would only be supported for its initial year at a relevant event, with the aim that this would seed community engagement to the extent that a dedicated research software session progresses to being part of the event without further resourcing support in subsequent years. This would ensure that each year satellite sessions could be convened at different events to continue to expand the community's reach. However, this activity may only need to run for 2-3 years before saturation point is reached.
- B. Activity: Engage with overlapping/new communities
- C. Outcome: Improve valuing of research software across the research sector, specifically with communities associated with the existing events.
- D. Community focus: Grow the research software community by widening those exposed to it, across disciplinary, thematic, regional, etc. events for the open science, research, open source software, etc, communities.
- E. Example/s of this approach:
 - a. [US-RSE Community and Travel Fund](#) includes a community category for proposals that benefit a group of individuals within the community. Examples include hosting a regional group meetup; or attendance at tech industry or domain-specific academic conferences to share RSE work, discuss research software engineering, or host RSE networking events.

- F. Benefits: Leverages established events; widens community beyond those already engaged; enables local focus where relevant; distributes a smaller organising load among many.
- G. Business model: Requires a central co-ordinating body to review proposals to resourcing and assign funding. Resourcing could be obtained through grant support (if this is a finite initiative of 2-3 years), sponsorship, registration fees; in-kind support from key stakeholders for organising committee members' time, possibly the conference venue. There would need to be consideration of whether grants or sponsorship options could only support the program as a whole, or identify specific events.

C. Champions of Research Software (ChampRS)

- A. Mode: In-person small event of 50-75 people (or entirely online to increase accessibility?)
- B. Activity: Help develop the next generation of leaders and champions to enable them to catalyse change in their local and/or global environment. This would enable sharing of best practices and networking opportunities, and could be augmented by inclusion in the event of capacity building around topics such as collaborating and building communities.
- C. Outcome:
- D. Community focus:
- E. Example/s of this approach:
 - a. [Vive la différence - research software engineers](#), a hybrid event at the [Lorentz Center](#) in the Netherlands, from 19-22 April 2022; and online from March to April 2022. The workshop offered a unique opportunity for 40 stakeholders – who had not previously collaborated – to analyse best practices and available data, identify research opportunities, and share experiences in solving their own local challenges.
 - b. A variation on this option would be to enable the convenors of the option B satellite events to come together once a year to share learnings and build this community. An example of this is the Code for Science and Society [Event Fund](#), which in one cycle awarded eight individuals \$10k each to design/deliver their own local events to support the use/creation of research software and software skills, then enabled those eight individuals to meet at the [Deep Learning Indaba](#) in Senegal.
 - c. **Are there examples of champions programs that bring people together over a few days, e.g.,** [Software Sustainability Institute Fellowship Program](#), [rOpenSci Champions Program](#) or [Mozilla Open Leaders](#)?
 - d. The following provide examples that bring together potential leaders, although with more of a primary focus on breaking down silos than supporting emerging champions.
 - i. [Falling Walls Summit](#) is an annual event that aims to break down barriers in science and innovation. It brings together global science leaders, business pioneers, and public sector visionaries to share knowledge, foster collaboration.

- ii. [Sci Foo](#) is an annual event convened by Digital Science where the invitees come from many different areas. The invitation-only attendees set the conference program during the conference itself, based on their shared professional interests and enthusiasms.
- F. Benefits: Focuses on people, develops future leaders, builds community across a mix of people who may not otherwise meet.
- G. Business model: Similar to option A.
- H. Other: There would need to be consideration of which type of champions the program is aimed at. Based on the Center for Scientific Collaboration and Community Engagement (CSCCE) [champions mode](#), this can range from volunteers who lead key initiatives (e.g. national RSE associations); to those who grow the community in new directions (e.g. ambassadors in certain geographic regions or disciplinary communities); and/or to those that steer the direction of the community as a whole.

4. General considerations

A number of issues were considered relevant to any type of event, including all of the above options. These issues were diversity, equity and inclusion; and ongoing engagement.

4.1 Diversity, equity and inclusion

[Towards an international research software conference \(version 1\)](#) presented options on conference structure that focused on the traditional academic conference with several days of events in a row, either hybrid or fully online. Whilst there was interest in this model, there was also significant discussion on the challenges to diversity, equity and inclusion that any type of in-person event entails. It was generally agreed that the conference should be truly international and accessible, including a vision for diversity and inclusion. However, it was acknowledged that even if an event is hybrid, current technology still does not enable online attendees to achieve the same level of engagement as in-person attendees, particularly given time zone issues. Similarly, no matter what geographic location is chosen for an in-person event, and even with the provision of some travel support to under-represented minorities, some geographic groups will be less able and/or likely to attend.

Consequently, to maximise community building it will be vital to build diversity, equity and inclusivity into the planning from the start.

4.2 Environmental impact

Each of the proposed options has implications in terms of the events' effects on the environment. In-person events of an international nature incur significant environmental footprints, e.g. in terms of travel, accommodation, catering and waste, with some of these effects differing between centralised or hub-and-spokes arrangements. Remote-only events affect the environment mainly via the usage of electricity, bandwidth and related infrastructures, which in turn might depend on the suppliers or other factors, often involving conscious choices

on time scales larger than the events themselves. Hybrid events share features of both in-person and remote events, with correspondingly mixed effects on the environment. It is thus important to document environmental impacts incurred by either of the proposed options or their existing precursors, to explore ways in which the ratio of mission impact versus environmental impact can be maximised, and to include these conversations into the planning right from the start.

4.3 Ongoing engagement

There was also a lot of discussion on the challenges to community building (given that the overarching aim of the event is to build the community over time) if engagement is limited to a single, annual event. Ongoing engagement throughout the year was also seen as critical.

An example that addresses this is the Research Data Alliance (RDA) six-monthly [plenaries](#), where working groups are expected to continue their projects in between each plenary, and provide updates and/or activities that support his work at each plenary. To some extent this could be encouraged through event design. The actual structure of any of the above options could result in an event that included varying amounts as top-down or bottom-up built content like the following, depending on the more finely delineated goals of the event:

- Open call, with a program committee using selection criteria to assess applications.
- Community-challenge driven as in RDA plenaries, where the conference includes reports from community-initiated working groups and interest groups.
- Agenda set by the organisers.

Where community challenge was part of the event design, this could be aligned with existing structures for community project groups, including Research Software Alliance [task forces](#) (which are sometimes co-led with other organisations such as RDA and [FORCE11](#)) and forums (including the [Research Software Funders Forum](#) and [Research Software Infrastructure Forum](#)). Alternatively, any of the above event options could result in a call to action or formation of a new community group with a specific focus, that could continue to engage beyond the annual event. However, resourcing for the annual event may need to include resourcing for this ongoing engagement.

4.4 Other event outcomes

5. Next Steps

The next stage of development of these ideas is to gain feedback through open public consultation in November 2024. This includes identifying stakeholders who would be interested in shepherding the development of at least one of these ideas in 2025/26, including possible pilots in 2025.

The public consultation will enable participants to engage through multiple avenues:

- Responding to this [brief questionnaire](#) on preferred options and potential involvement.
- Attending an open webinar. Five webinars are available for anyone to join, each with the same agenda of discussion on [Towards an international research software conference \(version 2\)](#) (this document), to engage multiple time zones:
 - 31 Oct, 20:00-21:00 UTC ([see in your time zone](#)), [option 1 calendar invite](#)
 - 1 Nov, 09:00-10:00 UTC ([see in your time zone](#)), [option 2 calendar invite](#)
 - 4 Nov, 21:00-22:00 UTC ([see in your time zone](#)), [option 3 calendar invite](#)
 - 5 Nov, 05:00-6:00 UTC ([see in your time zone](#)), [option 4 calendar invite](#)
 - 5 Nov, 09:00-10:00 UTC ([see in your time zone](#)), [option 5 calendar invite](#)[Zoom link](#), Meeting ID: 218 787 3236, Passcode: 446688
- Commenting directly on [Towards an international research software conference \(version 2\)](#) (this document).
- Emailing questions or comments to info@researchsoft.org.

These engagement options will be advertised on the [ReSA events webpage](#) from 16 November, in the ReSA [newsletter](#) on 23 November, and on ReSA social media. Collaborators who have agreed to cross-post this information include the [Digital Research Alliance of Canada](#), European Virtual Institute for Research Software Excellence ([EVERSE](#)), [Netherlands eScience Centre](#), [Research Software & Systems Engineers \(RSSE\) of Africa](#) and the [Software Sustainability Institute](#). Please also share this information broadly with your colleagues.

The closing date for input and feedback is Friday **15 November, 2024**.

5.1 Conference leadership

These discussions have generated a lot of enthusiasm towards a new event in general, and identification of potential leaders (individuals and/or organisations) is now needed. This would include scoping on the organising team and budget needed, and identifying an organisation that could take initial financial responsibility.

[Towards an international research software conference \(version 1\)](#) identifies possible business models, and highlights that there is significant evidence that cost-recovery is possible, with a range of events with varied registration costs, and/or that do receive sponsorship.

5.2 Timing of event and possible pilots

The timelines for an event would also be dependent on the organisers - the creation of a new conference would probably result in a 2026 conference date. It is also possible that some sort of pilots could occur in 2025, such as if another smaller event that was a forerunner of Option A was starting. Similarly, if some satellite events already planned to occur at other events in 2025 agreed to come together under the banner of Option B, (e.g., [EVERSE](#) and [Science For Africa Foundation](#) are considering a research software quality event in 2025. Other programs or initiatives may also be able to support in other ways, e.g., the Turing Way [Book Dashes](#) could design a specific team related to this event; and/or an Open Life Science [Open Seeds](#) cohort could prepare people to engage at the event.