Welcome back to work, to cooler temperatures and the next edition of "Into the EVERSE". This time: a special look into our pan-European collaborations with African partners.

View in browser

Into the EVERSE

The "E" in EVERSE stands for European...or does it? Yes but our aim is to go beyond. Software is for everyone, everywhere and we partnered up with different collaborators in Africa to cross paths between European and African RSE movements. Read about the activities of Talarify, RSSE Africa and the research & education networks, especially UbuntuNet Alliance. Also in this issues: meeting reports and a whole set of events to put into your calendar!

EOSC-EVERSE

EVERSE Project

Sanje Fenkart
Communications Officer

Building Sustainable Research Software: Highlights from the July RSE Workshop in South Africa

As research becomes increasingly data-driven and computational, the need for robust and sustainable software practices is more urgent than ever. In July 2025, a group of researchers who develop research software from across South Africa gathered for a hands-on workshop on Sustainable Research Software Engineering (RSE). Held in Cape Town, this interactive event focused on building the skills, networks, and sustainable practices needed to support software as a fundamental component of modern research.

The workshop was led by Prof's Colin C. Venter (University of Limerick and CERN) and Birgit Penzenstadler (Chalmers University of Technology, University of Gothenburg) and hosted by the South African National Bioinformatics Institute at the University of the Western Cape, the UCT eResearch Centre, Talarify, and the Research Software and Systems Engineering Africa community (RSSE Africa) with funding through the Erasmus+ programme. Participants represented a diverse range of disciplines, including environmental science, astronomy, bioinformatics, and high-performance computing. Organisations represented included the Inter-University Institute for Data-Intensive Astronomy at UCT and UWC (IDIA), the South African Environmental Observation Network (NRF-SAEON), the Computational Biology division at the University of Cape Town (CBIO), the Centre for High-Performance Computing at the CSIR, Stellenbosch University Department of Clinical Pharmacology, UWC Computer Science Department, the South African Medical Research Council, and UWC eResearch.

Participants, instructors and workshop organisers together at the July RSE workshop in South Africa. ©Campell Rae (SANBI)

Why Research Software Engineering Matters

Research software is critical for advancing knowledge in almost every scientific field today. Yet, the people who build and maintain this software - often researchers themselves - rarely receive formal training or recognition for their efforts. This creates a risk: without proper engineering practices, research outputs may become irreproducible, fragile, or unsustainable.

In South Africa and other parts of Africa, these challenges are compounded by a shortage of training opportunities, a lack of career paths for research software engineers, and the absence of a community of practice where knowledge and experiences can be shared and contextualised solutions developed. This workshop aimed to help address these gaps by providing practical guidance, fostering collaboration, and building a stronger local RSE community.

Workshop Highlights

Over two intensive days, participants explored key principles of sustainable software engineering. The programme combined keynote talks, live demonstrations, collaborative discussion sessions and community-building activities.

Sessions covered:

- An ice-breaker to learn about each participant's current challenges around research software and their expectations for the workshop
- What is meant by sustainability when applied to software

- Software complexity
- Software engineering design principles
- Software quality
- Software maintainability

Interactive sessions enabled participants to work on their own code bases and directly applying the theory discussed during lectures. Each session also included a teamwork exercise that supported peer learning, allowing participants to learn about their partners' code bases, challenges and solutions.

In the final session, Colin shared some excellent resources that could help participants immediately enhance the sustainability of their research code.

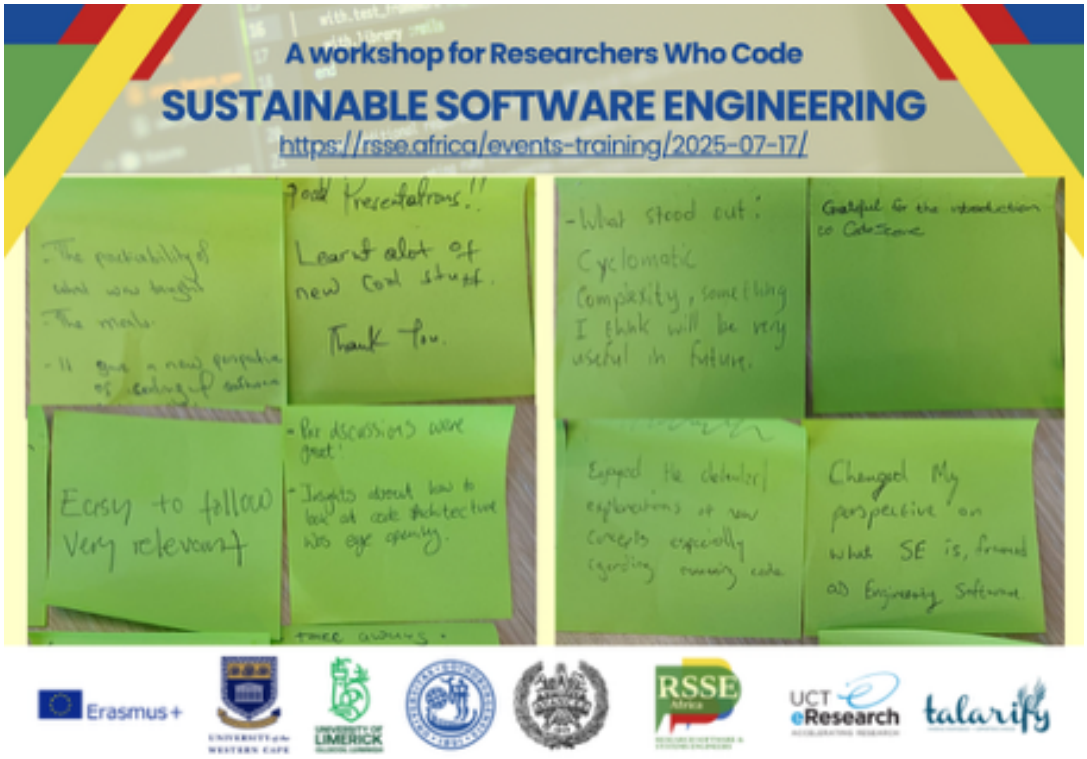
Voices from the Community

For many participants, this was the first time engaging in a dedicated event focused on the intersection of research and software engineering. Asked to give feedback on what stood out on day one of the workshops, participants' comments included phrases like:

"*The practicality of what was taught.*"

"*Pair discussions were great!*"

"*Enjoyed the detailed explanations of new concepts, especially regarding assessing code.*"



Collected feedback from the participants after day 1 at the workshop.

Looking Ahead

The July RSE workshop was not a standalone event - it forms part of a longer-term effort to build capacity and recognition for research software engineering in South Africa and the broader African region. Already, the organisers are exploring the possibility of follow-up trainings and further opportunities for participants to stay active in the community and continue their learning journey.

Interested researchers and developers are encouraged to **sign up to receive notifications about future RSSE Africa events.**

As research becomes increasingly dependent on software, workshops like this play a critical role in ensuring that the people behind the code are supported, recognised, and empowered to drive innovation in Africa and beyond.

This article was adapted for the EVERSE Newsletter and originally published on the University of CapeTown webpage.

Building the Backbone of Research and Education in Eastern and Southern Africa: Inside the UbuntuNet Alliance

In today's digitally interconnected world, research and education networks (RENs) play an increasingly vital role in enabling collaboration, innovation, and access to knowledge. In Africa, National Research and Education Networks (NRENs) are stepping up to meet this challenge, forming a powerful collective through the UbuntuNet Alliance. For the EVERSE community, which champions digital infrastructure and research-enabling services, understanding this dynamic ecosystem offers a glimpse into how infrastructure and policy meet to power scientific advancement.

What Are NRENs?

NRENs are specialized internet service providers that deliver high-speed, secure, and reliable digital infrastructure to research and education communities within a country. Unlike commercial providers, NRENs are non-profit and exist solely to serve the needs of universities, research institutions, libraries, and sometimes hospitals and schools. Their infrastructure enables the seamless sharing of large datasets, access to cloud services, and participation in global collaborative projects.

UbuntuNet's open science trainees from 2024. ©UbuntuNet Alliance.

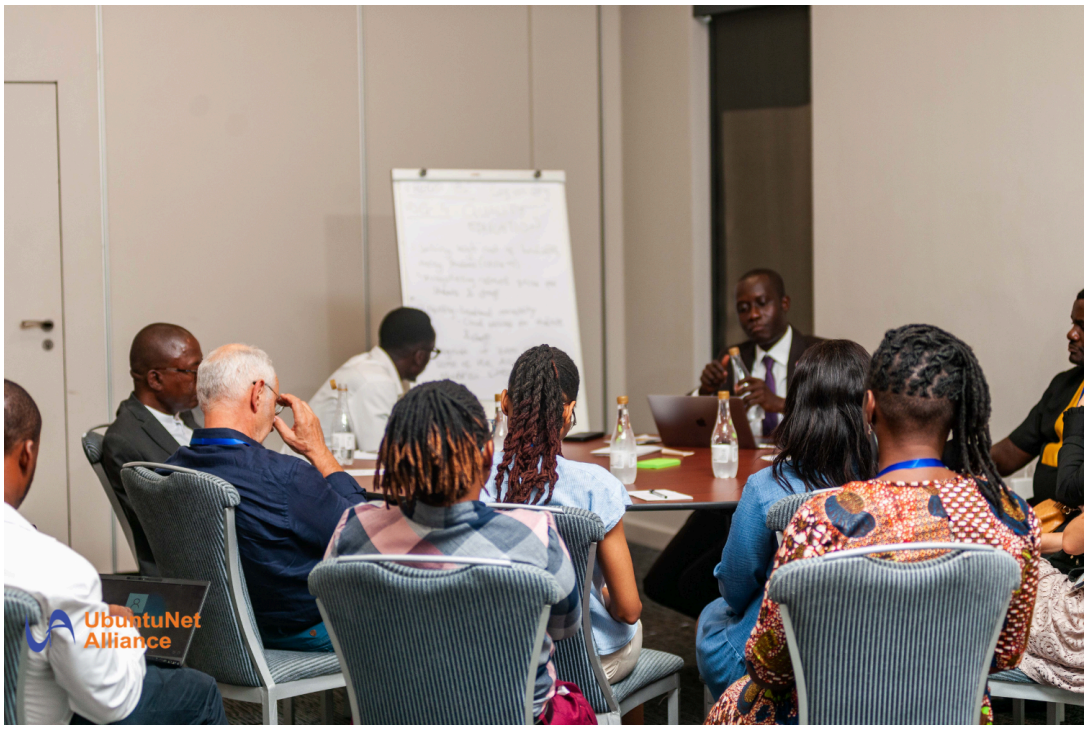
The UbuntuNet Alliance for Research and Education Networking

The UbuntuNet Alliance is the regional Research and Education Network for Eastern and Southern Africa. Acting as a consortium of NRENs, UbuntuNet Alliance exists to support and interconnect its members, providing them with affordable and robust regional and international connectivity. With a footprint extending across 26 countries, the Alliance ensures that African researchers and educators are not left behind in the global digital revolution.

The UbuntuNet Alliance has 16 member NRENs, connecting 2000+ research and education institutions and impacting more than 5 million students, staff, researchers and more, across Africa. Through their membership, NRENs benefit from the collective strength of the Alliance, including access to critical services, technical expertise, and capacity-building opportunities.

The UbuntuNet Alliance focuses on four key areas:

1. **Digital Infrastructure**:
   Through projects like AfricaConnect3, UbuntuNet Alliance has established a dedicated internet backbone across the region, reducing costs and improving bandwidth for member NRENs. It also provides cloud services for academic use, offering data storage, hosting, and compute resources tailored for research.
2. **Open Science**:
   UbuntuNet Alliance supports the open science movement via partnerships with platforms like **AfricArXiv**, an open access digital repository dedicated to African research. The Alliance also facilitates training for institutional repository managers and supports policies that promote free access to scientific knowledge.
3. **Capacity Building**:
   Training is at the heart of UbuntuNet Alliance's mission. Through workshops, online courses, and hands-on engineering support, the Alliance builds local expertise in areas such as network management, cybersecurity, and open-access publishing. In addition to these efforts, UbuntuNet Alliance works hand in hand with regional partners to facilitate staff exchange programmes.
4. **e-Learning Enablement**:
   Recognizing the growing importance of digital education, UbuntuNet Alliance supports NRENs in providing platforms and technical environments conducive to large-scale e-learning, making higher education more accessible and resilient.



UbuntuNet Alliance also strongly engages with the UN's Sustainable Development Goals, e.g. with specific workshops. ©UbuntuNet Alliance

Local and Global Impact

In line with the UN Sustainable Development Goals (SDGs) African NRENs, through UbuntuNet Alliance, are actively contributing to goals like Quality Education (SDG 4), Industry, Innovation and Infrastructure (SDG 9), and Partnerships for the Goals (SDG 17). A recent report from AfricaConnect3 highlights numerous success stories where RENs have catalyzed digital transformation and scientific collaboration in service of sustainable development.

Community Events and UbuntuNet-Connect 2025

The UbuntuNet Alliance's community-driven approach is exemplified by its annual **UbuntuNet-Connect conference**, the leading gathering for research and education networking stakeholders in Africa. UbuntuNet-Connect 2025, themed *"Resilient and Sustainable Research and Education Networks"* will be hosted in Harare, Zimbabwe. The conference provides a platform for policymakers, IT professionals, educators, researchers, and development partners to exchange ideas and showcase innovations.

We encourage the EVERSE community, especially those involved in digital research infrastructure and collaborative platforms, to participate by visiting the conference webpage **here**.

UbuntuNet Alliance and its member NRENs are proof that strategic collaboration, shared infrastructure, and regional solidarity can drive inclusive development and scientific excellence. As the world becomes more interconnected, supporting such networks is not only a regional priority, it's a global imperative.

Written by Harold Bowa (UbuntuNet Alliance).

Throwback to the UbuntuNet Connect conference in 2023. ©UbuntuNet Connect

RSE across Africa

Research software engineering movements in Africa are often part of National Education and Research Networks (NRENs) or come with their own initiatives, respectively. Here you can find a (non-complete) overview of partners we either already collaborated or we got to know over the past year (ordered alphabetically). By clicking on the logos you'll be redirected to their webpages for more information and events.

ASREN

Is the Network for Northern Africa and Arab states supporting research-related activities and infrastructure.

RSSE Africa

A forum for research software, infrastructure and developers across the African continent.

SFA

The Science for Africa Foundation is an organisation promoting science and innovation.

Talarify

Operating from South Africa and ctive since 2015, Talarify focuses on digital innovation in research.

UbuntuNet Alliance

Is the NREN for East and South Africa and focuses on network and networking.

WACREN

...acts in West and Central Africa. As its sister NRENs it aims to strengthen digital infrastructure..

Word from the EVERSE Scientific Advisory Board & ReSA

"The Research Software Alliance (ReSA) aims to advance the research software ecosystem by collaborating with decision makers and key influencers, including ongoing efforts to support and harmonise national and institutional research software policies and work with the OECD on improving access to research software. ReSA is excited by the impactful work EVERSE is doing to create a framework for research software and code excellence, which aligns with many ReSA activities. The release of the EVERSE Policy Brief will assist in advancing research software policy, particularly in shaping frameworks that recognise software as a first-class research output. These efforts help build a more sustainable, inclusive, and policy-aware research software ecosystem globally."

Michelle Barker, ReSA executive director & EVERSE SAB member

Daniel S. Katz, ReSA steering committee chair & EVERSE SAB member

More about ReSA

EVERSE members contributing to OECD's Research Software Dialogue

On Monday, September 8, the conference entitled "Access to Research Software: Opportunities and Challenges" was held at the OECD headquarters in Paris. Bringing together experts from the academic, public and private sectors, the policies that will enhance the access and sustainability of research software in the context of open science were discussed and examined. Through five thematic sessions, issues of governance, infrastructure, human resources, standards and public-private sector collaborations were discussed, with the aim of formulating practical solutions and charting future international cooperation.

Carole Goble (University of Manchester, ELIXIR-UK Head of Node) co-moderated the session on infrastructure issues, steering discussions on fragmentation, interoperability and long-term sustainability of research software. The session explored scalable models for repositories, archiving and reuse, with contributions from international experts across Europe, Australia and Japan.

Neil Chue Hong (University of Edinburgh, Software Sustainability Institute) chaired the session on Standards and Certification, which aimed to align the assessment and quality frameworks for research software. Among the participants in the panel was also Fotis Psomopoulos (CERTH), who emphasized the role of policy makers towards the adoption of both the FAIR principles for research software as well as the overall good practices for research software quality.

A key takeaway of the overall event was that, while academia seeks sustainable funding solutions, industry focuses on maintaining technical viability; both require collaborative efforts across sectors to thrive. Moreover, the human component requires particular care, as Research Software Engineers need recognised career paths to contribute effectively, yet they face challenges like technical debt due to initial resource shortages. Finally, and although AI can aid in development processes, it requires oversight for quality assurance, and current Public-Private Partnerships lack long-term stability but hold promise for the future of sustainable research software models.

Written by Fotis Psomopoulous, Carole Goble, Neil Chue Hong, Caterina Doglioni; parts adapted from ELIXIR UK.

Save the date!

S³ School - Sustainable Scientific Software School

The S³ School is a one-week training program designed to teach good and modern coding practices tailored for scientific software development. Our goal is to empower researchers, scientists, and Research Software Engineers (RSEs) with the skills to build sustainable, open, and reproducible research software following recognized best practices.

When: 14-21 January, 2026

Where: LAPP, Annecy (France)

Indico

Announcements & Outlook

Register now for the EOSC Symposium in Brussels (2-5 Nov) Register

Don't forget to celebrate the International RSE Day on 9 Oct! More here!

UbuntuNet Connect 2025 in Harare, Zimbabwe (30-31 Oct) Find out more!

Join the first Innovation Prototyping Lab in Zagreb from 1-3 Oct, remote participation possible Info & register

EOSC LUMEN is launching a workshop series between October and December 2025 More details!

EVERSE Webinar: Showcasing the Reference Framework Indico