



**Enhancing Trust, Integrity, and Efficiency in Research
through Next-Level Reproducibility Impact Pathways**

Deliverable D2.3 – Reproducibility Hub

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D2.3 Reproducibility Hub

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D2.3 Reproducibility Hub

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Executive Summary

Within this deliverable we discuss the [Reproducibility Hub](https://embassy.science/wiki) (the Hub), which is a sustainable, open-access knowledge resource page dedicated to advancing reproducibility across the research and innovation (R&I) system. The Hub serves researchers, funders, publishers, institutions, and other stakeholders, providing a centralized resource to enhance reproducibility. To ensure sustainability, the Hub is actually a project page hosted as a sub-site of the Embassy of Good Science (<https://embassy.science/wiki>). It integrates curated content from TIER2 as well as related initiatives such as the TIER2 sister projects iRise and OSIRIS, including checklists, training modules, inventories of tools, and domain-specific guidance. Beyond serving as a registry, the Hub promotes community building by offering guidance and materials to support the establishment of Reproducibility Networks and facilitate the adoption of best practices. The Reproducibility Hub describes specific project outcomes, addresses critical gaps in current knowledge, provides a platform for evidence-based practices, gives an overview of achievements of our community, and ensures the long-term promotion of reproducibility and research integrity within the global research and innovation ecosystem.

1. Introduction

1.1. Purpose and set up

The Reproducibility Hub (the Hub) is designed to serve as a sustainable, open-access knowledge resource page dedicated to advancing reproducibility across the research and innovation (R&I) system. Its primary purpose is to collect, curate, and disseminate evidence, methodologies, tools, interventions, and best practices related to reproducibility. Thus, enabling researchers, funders, publishers, institutions, and other stakeholders to access high-quality resources that support transparent, reliable, and rigorous research practices.

The Hub is hosted as a sub-site of the Embassy of Good Science, which leverages an established infrastructure for research integrity, community engagement, and resource dissemination, ensuring long-term sustainability and broad accessibility. The Hub integrates curated content from diverse sources, including checklists, inventories of tools, guidance on domain-specific best practices from TIER2, but also sister projects iRise and OSIRIS, and training modules from OpenAIRE. OpenAIRE is a non-profit organization which operate a European e-infrastructure offering a diverse set of services (including training materials, publishing, data management, and other services) to accelerate the adoption of Open Science practices. Moreover, the Hub aims to support community building by providing guidance and materials to help communities support reproducibility networks and promote reproducibility practices.

In addition to providing resources, through the wiki-based functions of the Embassy of Good Science, the Hub is community-driven, allowing the users of the website with an ORCID account to contribute, update, and share content iteratively, thereby fostering collaboration, knowledge exchange, and co-creation among stakeholders.

Ultimately, the Hub seeks to fill critical gaps in current knowledge, provide a centralized platform for evidence-based practices, and ensure the long-term promotion of reproducibility and research integrity within the global R&I system.

The Reproducibility Hub itself is the deliverable that we submit to the commission for review. Alongside it, this brief report gives a short overview of the work that has been done over the three years of the TIER2 project to bring it to fruition. With this document, we aim to provide an overview of the aim and content of the Reproducibility Hub.

2. The Reproducibility Hub

2.1. Access

The Reproducibility Hub can be accessed via this link: [TIER2 - The Embassy of Good Science](#). Below we present the five modules available on the Hub and where to access them. They consist of: 1) Definition of reproducibility; 2) the importance of different epistemic contexts for reproducibility; 3) An overview of different futures of how reproducibility can develop; 4) Highlighting the tools and practices that have been (co-)created by TIER2 together with the community; and 5) an overview of the communities that are involved in fostering reproducibility practices in the (European) R&I ecosystem.

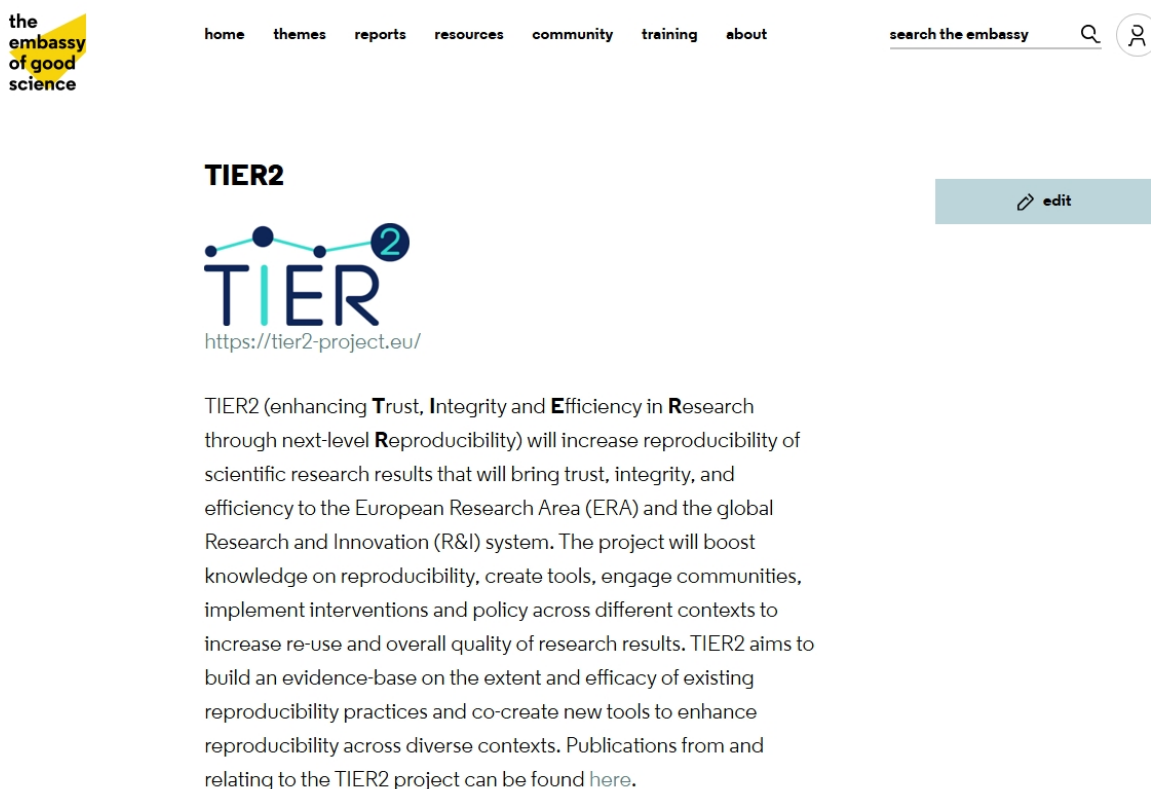


Figure 1: *The homepage of the Reproducibility Hub on the Embassy of Good Science.*

2.2.What is reproducibility?

This module provides an in-depth introduction to reproducibility through the work of TIER2 and iRise. The purpose and concept of reproducibility is introduced and working definitions are provided for important concepts in relation to reproducibility and replicability. Further, the futures of reproducibility are discussed from the perspective of different stakeholders. Additionally, there is a direct link to the Reproducibility Training modules which are hosted on OpenAIRE's OpenPlato platform. The link to this module is: [What is reproducibility?](#)

What is reproducibility?

Instructions for:

Trainee
Trainer

Related Initiative
TIER2

Goal

This module provides an in-depth introduction to reproducibility through the work of TIER2 and iRise. The purpose and concept of reproducibility is introduced, working definitions are provided for important concepts in relation to reproducibility and replicability, and the futures of reproducibility and illustrated from the perspective of different stakeholders.

Duration (hours)
2

For whom is this important?
All stakeholders in research, Funders, Publishers, Researchers

Steps

1 Defining Reproducibility
2 Futures of Reproducibility
3 TIER2 Reproducibility Training Modules

Figure 3: Screenshot of the ‘What is Reproducibility’ page on the Embassy of Good Science.

2.3. What is the evidence for reproducibility in different epistemic contexts?

Conceptions, roles, and pertinence of reproducibility are closely linked to different principal modes of knowledge production within and across research fields, so-called ‘epistemic contexts’. TIER2 mapped the contextual factors to various dimensions of ‘reproducibility’, as well as pertinent framework conditions (e.g., political, ethical, social, legal) that may affect the uptake of reproducibility practices in qualitative and machine learning fields. The resulting literature reviews enabled analyses of diverse conceptions, roles, and barriers of reproducibility, and permits the

identification of relevant and targeted tools. The link to this module is below: [What is the evidence for reproducibility in different epistemic contexts?](#)

2.4.Future of Reproducibility

This module presents the policy briefs and recommendations developed within the TIER2 project: [Future of Reproducibility](#). At the time of submission of this report, not all policy briefs are yet online.

2.5.New tools and services for reproducibility

TIER2 aimed to better understand the causes, consequences of, and possible solutions for perceived poor levels of reproductivity of research across different research contexts. With a focus on social, life, and computer sciences, as well as research publishers and funders, the project aims to increase awareness, build capacity, and propose innovative solutions tailored to varied research environments. Central to its approach were eight Pilot activities designed to develop, implement, and evaluate new reproducibility-related tools and practices. Find the pilots here: [New Tools and Services for Reproducibility](#).

New Tools and Services for Reproducibility

Instructions for:

Trainee

Trainer

Related Initiative

TIER2

Goal

TIER2 aims to better understand the causes, consequences and possible solutions of perceived poor levels of reproductivity of research across research contexts. With a focus on social, life, and computer sciences, as well as research publishers and funders, the project aims to increase awareness, build capacity, and propose innovative solutions sensitive to varied research cultures. Central to its approach are eight Pilot activities designed to develop, implement, and evaluate new reproducibility-related tools and practices.

⌚ Duration (hours)

1

👤 For whom is this important?

All stakeholders in research

Steps

1 Pilot 1 - Decision Aid

2 Pilot 2 - Reproducibility Management Plan (RMP)

3 Pilot 3 - Reproducible Workflows

4 Pilot 4 - The Reproducibility Checklist

5 Pilot 5 - The Reproducibility Promotion Plan for Funders (RPP)

6 Pilot 6 - The Reproducibility Monitoring Dashboard

7 Pilot 7 - Editorial Workflows to Increase Data Sharing

8 Pilot 8 - An Editorial Reference Handbook for Reproducibility and FAIRness

Figure 4: Screenshot of the new tools and services for reproducibility, displaying all the pilots, on the Embassy of Good Science.

2.6. Communities and collaborators

On this page we present the TIER2 Reproducibility Network Award, the stakeholder community building activities and efforts of TIER2, our sister projects (iRise and OSIRIS), and finally the UKRN Primers initiative: [Communities and collaborators](#).

3. Conclusion

In conclusion, the Reproducibility Hub offers a comprehensive overview of the work carried out by TIER2, ensuring that the project's outcomes are sustainably safeguarded at the Embassy of Good Science. It provides the research community with easy access to the tools, practices, reviews, and recommendations developed by TIER2 and its sister projects, iRISE and OSIRIS. Finally, it offers readers a nuanced understanding of reproducibility—its definitions, underlying concepts, and the diversity of practices across different epistemic contexts.