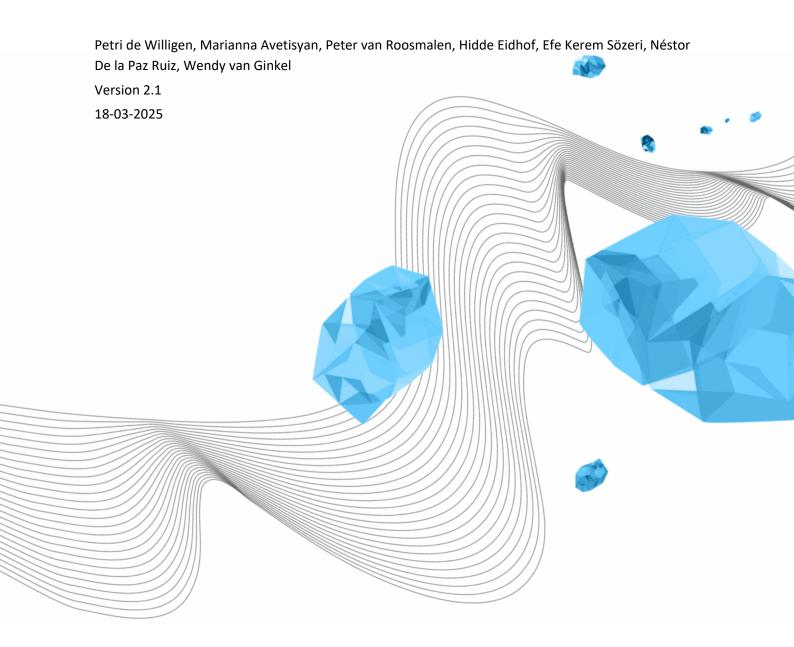
Status: Versie 2.1

Datum vastgesteld in CvB: 10-02-2025 Datum vastgesteld in MT-LISA: 25-11-2024

Auteur: Wendy van Ginkel

RESEARCH SOFTWARE POLICY UNIVERSITY OF TWENTE



COLOPHON

ORGANISATION

Library, ICT Services & Archive

TITLE

RESEARCH SOFTWARE POLICY UNIVERSITY OF TWENTE

PROJECT

Research Software Management

REFERENCE

LISA-EIS

VERSION (STATUS)

2.1

DATE

18-03-2025

AUTHOR(S)

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DOCUMENT HISTORY

| Version | Date | Processed by | Changes/Remarks |
|---------|------------|---|---|
| 1.0 | 28-11-2023 | Peter van Roosmalen, Hidde Eidhof, Petri de Willigen, Marianna Avetisyan | First draft version, based on TU Delft Research Software Policy |
| 1.1 | 13-12-2023 | Petri de Willigen | Formatting, resolving comments, adding decision tree |
| 1.2 | 18-12-2023 | Hidde Eidhof, Petri de Willigen | Minor edits, final draft for feedback from stakeholders: Jasper van Alten, Maarten van Bentum, Ton van den Boogaard, Tom van Dijk, Serkan Girgin, Jan-Willem van t Klooster, Roy Kolkman, Haico te Kulve, Simone van Lin, Alice Nikuze, Peter Oosterhoff, Roland van Rijswijk-Deij, Ashit Rao, Bojana Rosic, Florian Schuberth, Iris Schutte, Masoome Shariat, Anthony Thornton, Mark Vlutters, Victor Wanningen, Raul Zurita Milla |
| 1.3 | 01-08-2024 | Petri de Willigen, Marianna Avetisyan, Peter van Roosmalen, Hidde Eidhof, Efe Kerem Sözeri, Néstor De la Paz Ruiz | Major edits, incorporating the feedback for 1.2, separating UT RS Policy and RS Guideline |
| 1.4 | 18-11-2024 | Petri de Willigen, Marianna Avetisyan, Peter van Roosmalen, Hidde Eidhof, Efe Kerem Sözeri, Néstor De la Paz Ruiz | Minor edits following the internal comments by LISA members, and minor changes in legal wording |
| 1.4 | 25-11-2024 | Wendy van Ginkel | Approved by Management Team LISA |
| 1.4 | 29-01-2025 | Wendy van Ginkel | Approved by University Committee Research (UC-R) |
| 2.0 | 10-02-2025 | Wendy van Ginkel | Version updated with previous approvals to be approved by Executive Board (EB) |
| 2.1 | 13-03-2025 | Wendy van Ginkel | Added Distribution List to policy document |

DISTRIBUTION LIST

| Version | Date | Author(s) | Distributed to | Reason |
|---------|------------|-------------------|--------------------------------------|---|
| 1.2 | 18-12-2023 | Petri de Willigen | Stakeholders LISA and faculties | Draft version for feedback |
| 1.3 | 18-11-2024 | Efe Kerem Sözeri | Stakeholders LISA | Version for feedback |
| 1.4 | 25-11-2024 | Wendy van Ginkel | Management Team LISA (LISA MT) | For approval |
| 1.4 | 29-01-2025 | Wendy van Ginkel | University Committee Research (UC-R) | For approval |
| 2.0 | 10-02-2025 | Wendy van Ginkel | Executive Board (EB) | For approval |
| 2.1 | 13-03-2025 | Wendy van Ginkel | Efe Kerem Sözeri | For confirmation distribution list before renewed publication |
| 2.1 | 18-03-2025 | Wendy van Ginkel | Service Portal LISA UT | Publication |

Table of Contents

| 1 | Intro | oduction | . 4 | | |
|---|-----------------|---|-----|--|--|
| 2 | Polic | cy objectives | 4 | | |
| 3 | Target audience | | | | |
| 4 | Copy | right ownership and distribution of software | . 5 | | |
| 5 | Role | s, Rights and Responsibilities | . 5 | | |
| | 5.1 | UT Staff | . 5 | | |
| | 5.2 | Software Stewards and the Digital Competence Centre (DCC) | . 6 | | |
| | 5.3 | Pure Faculty Managers | . 6 | | |
| | 5.4 | Knowledge Safety Team | . 6 | | |
| | 5.5 | Knowledge & Technology Transfer Office | . 6 | | |
| | 5.6 | Faculty Boards | . 6 | | |
| | 5.7 | Executive Board | . 6 | | |
| 6 | Revi | ew of this Policy | . ε | | |

1 INTRODUCTION

Research software, defined as "source code files, algorithms, scripts, computational workflows and executables that were created during the research process or for a research purpose" (Gruenpeter et al., 2021, p. 16) has become a key output and a key ingredient of many research projects. This is also recognized nationally and globally (Pianosi et al., 2020; Barker et al., 2022; Carver et al., 2022; Hocquet et al., 2024).

Making research software FAIR (Findable, Accessible, Interoperable and Reusable) is part of the strategic goals of the Open Science NL national program. The Dutch Research Council (NWO) and the eScience Center have also worked together on national guidelines for software management plans. The Amsterdam Declaration on Funding Research Software Sustainability (ADORE) aims to raise awareness of the role of funding practices in the sustainability of research software. The Commons Conservancy, initiated by, among others, GÉANT and SURF, promises to be a long-term home for open-source projects for the scientific community.

All these efforts stand on the shoulders of the work done for open access academic publishing at many research institutes, including the University of Twente (UT), where open access (OA) publishing is considered the norm and achieving 100 percent OA is the goal; as well as making research data FAIR, for which the UT has a separate policy. Just like research data, research software must be well documented, preserved and published, preferably open source. Also, when making software available to others, there should be a balance between the level of openness and access granted, possible commercial exploitation and any legal or ethical restrictions that prevent sharing it as open source. As such, this policy is also directly related to the UT policy on intellectual property rights.

However, software is different from other (published) research output or research data in that it is dynamically executable and often has dependencies on other software or hardware. Therefore, it is also crucial that software is developed with sustainability in mind; such that it remains functional in a wider ecosystem of open-source software, with newer versions of other software it depends on. That requires careful planning, intelligent design, dedicated academic labor and long-term funding for its maintenance.

2 POLICY OBJECTIVES

The UT Research Software Policy emphasizes the value of research software as a standalone research output, next to research data and other scientific publications, and thereby facilitates proper recognition of the UT staff's contributions in all formats.

While the UT Research Software Policy establishes the groundwork for the research software management at the UT and sets its main principles, the corresponding UT Research Software Guideline provides clarification on technical and practical aspects, such as copyright, licensing, registration, version control, knowledge safety, commercialization, and management of research software. With that, the Guideline aims to facilitate best practices on research software management and publishing, irrespective of whether the code is written from scratch or developed on previous work, provided with a proprietary or opensource license, created as a byproduct of a single research analysis or designed to function on its own for many applications and fields.

Finally, this policy determines the rights and responsibilities of all parties involved in developing and managing research software, in the light of the recognition and rewards schemes.

3 TARGET AUDIENCE

This policy applies to all staff members of the UT who are involved in research software development, including part-time or full-time researchers, PhD candidates with a contract, software developers hired by the university, research support staff, and other employees who have a contractual agreement with the UT. For all purposes in this document, this target audience will be referred to as UT staff.

Bachelor's and master's students enrolled at the UT, in principle, hold their own right to their code, just like their inventions, designs, and ideas. UT has an Intellectual Property Right Guideline for Students to explain the rights and obligations of the UT and its students pertaining to intellectual property rights (co-)developed by the UT (employees) and its students.

4 COPYRIGHT OWNERSHIP AND DISTRIBUTION OF SOFTWARE

As per the <u>Dutch Copyright Act</u> and the <u>UNL Collective Labour Agreement</u>, the UT owns (a.o.) the copyright on all software developed by its employees during and within the scope of their employment at the UT. Subject to the procedure described in the Research Software Guideline, the UT grants UT staff the right to distribute software they developed under one of the pre-approved open-source licenses.

By granting the right to distribute software under one of the pre-approved open-source licenses, the UT caters to the desire of its employees for making academic output as open as possible and as closed as necessary, thereby carefully considering any (legal) restrictions that may apply.

With clear guidance on all roles and responsibilities, the aforementioned right to distribute software under one of the pre-approved open-source licenses also eliminates the administrative workload that could delay or hinder research software development at the UT.

5 ROLES, RIGHTS AND RESPONSIBILITIES

5.1 UT STAFF

UT staff are solely responsible for developing their code, planning its maintenance, writing its documentation, and its registration at UT's internal Pure, following the steps in the <u>Guideline</u>. They have a right to decide about the way it's published, similar to their other academic output.

If a software output has contributors outside of the UT, or the funding for the project has restrictions, the UT needs to reach consensus with these external stakeholders in decisions regarding the publication of their software.

5.2 SOFTWARE STEWARDS AND THE DIGITAL COMPETENCE CENTRE (DCC)

Software stewards are the single point of contact for all research software issues at UT. They serve their role as part of the DCC.

The software stewards and DCC advise the UT staff on software development, management plans, software maintenance, documentation, and sustainability. When necessary, DCC can connect the UT staff with internal and external specialists having the required expertise.

If a UT staff member wants to publish the software they developed publicly, with a copyleft or a permissive open-source license, the software stewards can advise them on version control, available repositories, licensing and compatibility, and citation. The UT Research Software Guideline provides practical definitions and procedures regarding this.

5.3 PURE FACULTY MANAGERS

In accordance with the collective labor agreement, research software developed by the UT staff needs to be reported to the university. At UT, this is through the registration on the Pure Research Information System. Questions regarding correct registration should be directed to the Pure faculty managers.

5.4 KNOWLEDGE SAFETY TEAM

If a UT staff member has legal concerns regarding the dissemination of their work, such as <u>dual-use</u> <u>software with export restrictions</u>, they may need to keep their code with restricted access. Questions regarding this should be directed to the <u>Knowledge Safety Team</u> (KST).

This does not prevent UT staff from registering their software description (metadata) at Pure.

5.5 KNOWLEDGE & TECHNOLOGY TRANSFER OFFICE

If the UT staff member has followed the decision tree and is of the opinion that the software concerned is commercially exploitable, they need to contact the Knowledge & Technology Transfer Office (KTO) and prepare an Invention Disclosure Form (See Annex I of the Implementing Rules on Intellectual Property).

5.6 FACULTY BOARDS

The Faculty Boards are responsible for taking measures to ensure the implementation of the policy within their faculties, such as by creating awareness in regular department meetings and involving relevant research and support staff in the procedures.

5.7 EXECUTIVE BOARD

The Executive Board establishes the UT-wide research software policy.

6 REVIEW OF THIS POLICY

This policy will be reviewed at least every three years at the initiative of the software stewards. The next review will be in December 2027. If an interim evaluation provides the grounds for a modification, the policy will be reviewed sooner.

The software stewards in department Embedded Information Services (EIS) in the service department Library, ICT Services, and Archive (LISA) of the University of Twente are responsible for this policy.

This policy is established by the LISA Management Team, the University Committee on Research (UC-R), and the UT Executive Board (EB).