TU Delft Research Data Framework Policy

June 2018

The TU Delft Data Stewardship Policy Framework supports the development of mature working practices and policies for research data management across each of the faculties at TU Delft.

This document serves as an overarching general policy framework for TU Delft as a whole. It is accompanied by the Faculty Research Data Management Policy Template and an online guidance on practical implementation. The template is for faculties to define their own policies and procedures specific for their own staff. It is expected that, coordinated by Data Stewards, the development of these faculty policies will start in 2018, making use of this Framework to do so.

This policy framework is motivated by the belief that data stewardship cultivates:

- Best practice for ensuring that scientific arguments and results are reproducible in the long term.
- Better exposure of academic work of researchers at TU Delft leading to recognition of quality of the research process as a whole.
- Responsible management of research data, including the safe storage of personal data or protection of intellectual capital developed by scientists across TU Delft.
- Improved practices for meeting the demands of funders and publishers with respect to research data management and sharing.

This policy framework recognises that:

- Individual departments and research groups have different working practices and processes and will therefore require dedicated policies.
- Data stewardship is the entire process of managing research data from its creation to its re-use and preservation - not just open publication of data. While it is beneficial to publish research data openly, there might be valid ethical, legal or commercial implications that make data unsuitable for open sharing.
- Research data (see Definitions) might mean different things for different disciplines. Source code, experimental notes, protocols, and other forms of information supporting traditional publication are also within the scope of this policy.

1) University-wide Roles and Responsibilities

The Library is expected to:

- Provide robust, high-quality infrastructure to facilitate good data management including:
  - Coordinate the creation and development of high quality advice on research data management

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A variety of services to assist with the management of raw and processed data (in combination with ICT).

- A certified archival service (4TU.ResearchData) that offers at least 15 years of long-term curation for research data (in combination with ICT).
- Work with faculties to provide advice and training in good data management.
- Coordinate a network of Data Stewards, who are embedded within the faculties.

The ICT Department is expected to:

- Provide a standard, robust, high-quality infrastructure to facilitate good data management and storage where possible.
- Provide a custom, high-quality infrastructure to facilitate good data management and storage where necessary.
- Provide secure access management to data according to ICT security guidelines.

University Services are expected to:

- Provide suitable training for researchers and students on good research data management (Graduate School / Education and Student Affairs).
- Provide expert contributions to policy and practical issues related to data protection and ownership. (Legal / ICT)
- Ensure understanding of good research data practices is recognised as part of university profiles and behaviours (Human Resources).
- Devising strategies to deal with the economic aspects of long-term data archiving (Finance).

The Executive Board at TU Delft is expected to:

- Ensure the creation of robust Data Policies by the faculties (within the context of this Policy Framework) and thereby ensuring TU Delft complies with academic needs and funder requirements for research data management.
- Ensure that the relevant stakeholders, particularly the support services, receive the necessary support to deliver the relevant services.
- Ensure that above roles and responsibilities are reviewed and modified as necessary, as well as the effectiveness of the Policy Framework and the faculties’ Data Policies.

The Board for Doctorates is expected to:

- Provide oversight of the mandatory regulations related to PhD students
- Ensure that PhD students have the correct support to meet these mandatory requirements

2) Faculty-Specific Role and Responsibilities

Role and responsibilities for different stakeholders within the faculties are defined in the Faculty Policies. Nevertheless, there are some areas where specific commitments must be made.

In each Faculty Policy, Principal Investigators are expected to:

- Ensure that every research project starts with a data management plan, which needs to be regularly updated and adhered to by all project members.

OR
- Ensure that all members of the **group plan for good data management** from the outset of any research project and adhere to good data management practice throughout the project’s lifecycle.

**In each Faculty Policy, PhD Supervisors are expected to:**
- Support their PhD students in preparation of a written data management plan for managing research outputs within the first 12 months of the PhD study.

**OR**
- Develop and discuss a strategy for managing research data together with their PhD students.

- Ensure that PhD students attend relevant training on data management.
- Ensure that their PhD students make all data and code underlying their completed PhD theses appropriately documented and accessible for at least 10 years from the end of the research project, in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable), unless there are valid reasons which make research data unsuitable for sharing. (For all Phds starting from September 2018 onwards)

**In each Faculty Policy, all Researchers are expected to:**
- Ensure that research data, code and any other materials needed to reproduce research findings are appropriately documented and shared in a research data repository in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable) for at least 10 years from the end of the research project, unless there are valid reasons not to do so.
- Should data not be made available in a repository, ensure that the relevant metadata is published in a suitable repository and any research publications resulting from the project have a statement explaining what additional datasets/materials exists; why access is restricted; who can use the data and under what circumstances.

**In each Faculty Policy, PhD students are expected to:**
- Develop a written data management plan for managing research outputs within the first 12 months of the PhD study, and attend the relevant training

**OR**
- Develop a strategy for managing research data and discuss it with their supervisors.

- Attend the relevant training in data management.
- Ensure that all data and code underlying completed PhD theses are appropriately documented and accessible for at least 10 years from the end of the research project, in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable), unless there are valid reasons which make research data unsuitable for sharing.
Faculty Research Data Management Policy Template

Preface

The Faculty of xxxxxxxxxx Research Data Management Policy is part of the central TU Delft Research Data Framework Policy. The Faculty of xxxxxxxxxx Research Data Management Policy helps create effective practices for working with research data at the faculty, and defines data management roles and responsibilities of the different stakeholders within the Faculty. The Framework mandates some issues as obligatory (in italics), while other parts of the Policy are left to the discretion of the faculty.

This policy is supported by the Definitions, the online guidance on data management² and related policies and documents.

This Policy is motivated by the belief that good data data stewardship leads to research that is more time- and cost-efficient and it is inspired by principles that research data should be Findable, Accessible, Interoperable and Reusable (FAIR). This policy cultivates:

- Best practice for ensuring that scientific arguments and results are reproducible in the long term.
- Better exposure of academic work of researchers at TU Delft leading to recognition of quality of the research process as a whole.
- Responsible management of research data, including the safe storage of research data and protection of intellectual capital developed by scientists across TU Delft.
- Improved practices for meeting the demands of funders and publishers with respect to research data management and sharing.

This policy recognises that:

- Individual departments and research groups have different working practices and processes and will therefore require dedicated guidelines.
- Data stewardship is the entire process of managing research data from its creation to its re-use and preservation and it is not equal to Open Science. While it is beneficial to publish research data openly, there might be valid ethical, legal or commercial implications, which will make data unsuitable for open sharing.
- Research data (see Definitions) might mean different things for different disciplines. Source code, experimental notes, protocols, and other forms of information supporting traditional publication are also within the scope of this policy.

² TU Delft Library Research Data Management website:
Roles and Responsibilities

Note that the Faculty of xxxxx Research Data Management Policy only specifies the Roles and Responsibilities of Faculty-specific stakeholders. TU Delft Research Data Framework Policy should be consulted about the roles of the Library, ICT Department, University Services and the Executive Board at TU Delft.

Principal investigators are expected to:
- Ensure that all members of the research group (including PhD students) are aware of the FAIR data principles and are appropriately trained to effectively manage research data, and that they adhere to the expectations outlined within this policy.
  - Ensure that every research project has a data management plan, which needs to be regularly updated and adhered to by all project members.
  - OR
  - Ensure that all members of the group plan for good data management from the outset of any research project and adhere to good data management practice throughout the project’s lifecycle.
- Ensure that any agreements with external funding agencies, commercial companies or other third parties allow compliance with this Data Policy.
  - Adhere to contractual obligations with regards to ownership of, and rights relating to, research datasets resulting from projects funded by external agencies or commercial companies.
- Budget for the costs of data stewardship into financial project planning.

PhD Supervisors are expected to:
- Support their PhD students in preparation of a written data management plan for managing research outputs within the first 12 months of the PhD study.
- OR
  - Develop and discuss a strategy for managing research data together with their PhD students.
- Ensure that PhD students attend relevant training on data management.
- Ensure that their PhD students make all data and code underlying their completed PhD theses appropriately documented and accessible for at least 10 years from the end of the research project, in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable), unless there are valid reasons which make research data unsuitable for sharing. (For all PhDs starting from September 2018 onwards)

Individual Researchers are expected to:
- Ensure that research data, code and any other materials needed to reproduce research findings are appropriately documented, stored and shared in a research data repository in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable) for at
least 10 years from the end of the research project, unless there are valid reasons not to do so.

- Should data not be made available in a repository, ensure that the data management plan and any research publications resulting from the project have a statement explaining what additional datasets/materials exists; why access is restricted; who can use the data and under what circumstances.
- Understand who owns research data resulting from their projects and what that implies in terms of data management, particularly sharing and publishing.
- Properly cite research data, in accordance with the **FORCE11 Joint Declaration of Data Citation Principles**.
- Undertake training in good data management, as required.

**In addition, PhD students are expected to:**

- **Develop a written data management strategy for managing research outputs within the first 12 months of the PhD study.**
  
  OR

- **Develop a strategy for managing research data and discuss it with their supervisors.**

- Attend the relevant training in data management.
- Ensure that all data and code underlying completed PhD theses are appropriately documented and accessible for at least 10 years from the end of the research project, in accordance with the FAIR principles (Findable, Accessible, Interoperable and Reusable), unless there are valid reasons which make research data unsuitable for sharing.

**Data Stewards are expected to:**

- Lead the development, review and implementation of the faculty’s data management policy.
- Create awareness and explain to researchers the added value of good data management.
- Assist researchers in planning the collection, management, and publication of data in research projects and liaise with other service providers (such as Legal services, ICT, Human Research Ethics Committee) as required.
- Help researchers with writing data management plans and with budgeting for research data management costs in their grant applications.
- Develop and run training events tailored to researchers’ needs.

**Faculty Deans are expected to:**

- **Ensure that Data Stewards are embedded within faculties.**
- **Develop Faculty Policies for Research Data Management based on this Framework**
- Ensure that within their faculty there is appropriate infrastructure and the right tools for researchers to put good data management into practice.
- Ensure that necessary training and advocacy provisions are available to the faculty, and that researchers are aware of the faculty’s data management policy and are equipped with adequate skills to adhere to it.
Heads of Departments are expected to:

- Ensure awareness of good data management practices among all researchers and students within the department.
- Develop effective strategies for monitoring and review of data management practices.

Heads of Sections are expected to:

- Encourage individual research groups to adhere to discipline-specific guidelines on good data management and FAIR data (or to develop them if disciplinary standards do not exist).
- Work with relevant support staff to develop practical solutions for data management in their section.
Definitions

**Data Stewardship** is the oversight of the entire research data lifecycle, aiming to ensure that the right processes are put in place and that appropriate decisions are made to make research datasets Findable, Accessible, Interoperable and Reusable (FAIR).

**FAIR Data Principles**

Set of guiding principles to make data Findable, Accessible, Interoperable, and Reusable. FORCE11 is the organisation which defined these principles and which also provides an explanation of their exact meaning and implementation.

**Personal data**

According to new [European Data Protection Regulation](https://www.europa.eu/regulation/en统a), personal data means “any information relating to an identified or identifiable natural person (‘data subject’); an identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person”

**Research data**

Research data is the evidence that underpins answers to research questions, and which is necessary to validate research findings. Data can come in various forms and types, characteristic to specific disciplines of research. For example, data can be quantitative information or qualitative statements collected by researchers in the course of their work by experimentation, observation, modelling, interview or other methods, or information derived from existing evidence. Research data also includes elements that make the data reusable or re-workable, e.g. documentation of the research process (e.g. in lab- or notebooks), or underlying software.

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3 The ICT department, Library, Valorisation and Legal Services are exploring the needs of the university for a related Software Policy
## Related TU Delft policies and resources

<table>
<thead>
<tr>
<th>Resource Name</th>
<th>Description</th>
<th>Link</th>
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</thead>
<tbody>
<tr>
<td><strong>Scientific Integrity Policy</strong></td>
<td>Framework guiding researchers through various aspects of scientific integrity and referring to valuable resources and regulations.</td>
<td><a href="https://www.tudelft.nl/en/about-tu-delft/strategy/strategy-documents-tu-delft/integrity-policy/scientific-integrity/">https://www.tudelft.nl/en/about-tu-delft/strategy/strategy-documents-tu-delft/integrity-policy/scientific-integrity/</a></td>
</tr>
<tr>
<td><strong>Code of Ethics</strong></td>
<td>Code of Ethics formulates the ideals, responsibilities and rights that should be taken as guidelines for everyone who is part of TU Delft: the academic staff, support staff, guests, and students.</td>
<td><a href="https://www.tudelft.nl/en/about-tu-delft/strategy/strategy-documents-tu-delft/integrity-policy/code-of-ethics/">https://www.tudelft.nl/en/about-tu-delft/strategy/strategy-documents-tu-delft/integrity-policy/code-of-ethics/</a></td>
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TU Delft Data Stewardship Policy Framework
Credits:

This document was originally written by (in alphabetical order) Alastair Dunning, Annemiek van der Kuil, Madeleine de Smalee, Marta Teperek, and Anke Versteeg. Additional information for the template was supplied by Data Stewards (Heather Andrews, Jasper van Dijck, Robbert Eggermont, Kees den Heijer, Munire van der Kruyk ) and Jasmin Bohmer and Maria Cruz. It was updated after the discussions and interviews with researchers and senior administrative staff across the university. The following faculties provided specific feedback.

- CITG (Civil Engineering and GeoSciences)
- LR (Aerospace Engineering)
- IO (Industrial Design)
- EWI (Mathematics, Electronic Engineering and Computer Sciences)
- TNW (Applied Sciences)

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- Rob Oosterling (ICT)
- Mark Schenk (ICT Innovation)
- Wilma van Wezenbeek (Library)

The usefulness of existing Research Data Policies of the following universities are also acknowledged

- University of Bath: Research Data Policy Guidance
- UCL (London): Research Data Policy
- EUR: Research Data Management at Erasmus University Rotterdam (vanaf p.53)
- Leiden University - Provisional Regulation for Data Management.
- UTwente: data policy
- UU: Policy Framework for Research Data
• UU: Results survey Research and IT: Interest in data management services and expertise, per faculty and strategic theme
• WUR: Data Management Support Services
• WUR, Environmental Policy Group: data management policy