

DATA MANAGEMENT PLAN - A FORM FOR EMPLOYEES OF THE BYDGOSZCZ UNIVERSITY OF SCIENCE AND TECHNOLOGY (suggestions)

UWAGA! Formatkę należy dostosować indywidualnie do danego projektu.

1. Data description and collection or re-use of existing data

1.1 How will new data be collected or produced and/or how will existing data be re-used?

The project plans to acquire **new data**, both **raw** and **processed**.

Data will be acquired using research equipment ... and queries, observations and interviews, field research, experiments.

Data will include ... (description of type of data).

Data will be obtained through ... (e.g., measurements using apparatus and relevant software). Data will be in ... format (e.g., textual).

Data will be stored in digital ... (e.g., text files, photos and images) saved in common formats, if possible in open formats. All data will be processed and analyzed according to standard procedures. Measurement data will be described in such a way that they can be identified (e.g., date, type of test, material tested, apparatus, relevant measurement conditions) and the experiment can be re-run.

It is also planned to use existing data. These will come from reliable sources. The use will be carried out in accordance with legal requirements.

1.2 What data (e.g. the kinds, formats, and volumes) will be collected or produced?

The data acquired and processed will be collected depending on the type of data:

- raw data saved in format ... (e.g. txt, .odt, .csv, .xlsx),
- reading data saved in ... format (e.g. .xlsx),
- images saved in image file format ... (e.g. png, tiff, jpg, bmp),
- processed data based on analysis saved in format ... (e.g. .csv, .ods),

Data will mainly include text files, table files, selected image files.

The size of the data should not exceed ... (e.g. 100 MB).

2. Documentation and data quality

2.1. What metadata and documentation (e.g. methodology or data collection and way of organising data) will accompany data?

Documents will be classified and described in a manner closely related to the research method adopted in the project. The way in which data is classified and organized will depend on the type of research and the results obtained during the research. File titles will clearly describe the contents. The files will note the source, time and place of data acquisition. Depending on the type of data, they will be appropriately cataloged in structured folders. Files in the form of datasets will be stored in an open data repository. They will be described using metadata in accordance with the standards adopted by the repository, so that the description will be understandable to both humans and computer programs. Each deposited dataset will be labeled with a DOI number.

2.2. What data quality control measures will be used?

The data will be taken from a device calibrated according to the manufacturer's instructions. Each time the data will be checked for accuracy by trained personnel. Throughout the project, the quality of the acquired data will be monitored and evaluated on an ongoing basis by the project manager and/or by the project team/experts.

Dedicated software (e.g., IBM SPSS Statistics - specific software name) will be used for data checking

and analysis.

3. Storage and backup during the research process

3.1 How will data and metadata be stored and backed up during the research process?

Electronic data will be stored on the disk of the computer connected to the measuring device / the business disk of the project manager's (team member's) computer, and on the disk arrays of the PBS internal network. Access to the university's arrays will be possible only from the Polytechnic's internal network or through an encrypted VPN channel. A security copy will be made immediately after the computer is connected to the network or a VPN tunnel is set up. In addition, a file storage service administered and secured by the PBS Academic Network and Computer Center ("Synology") will be used. The solutions guarantee the preservation of the principle of three copies on two different media including one media located in a different location (3-2-1).

Only researchers involved in the project will have access to the collected data. Access to the software will be protected by login credentials. File access permissions will be defined per user for data files, methods, sequences and results. Data will be processed and stored on well-protected laptops (up-to-date firewalls and virus / Trojan protection).

Data to be shared will be deposited in an open repository to ensure its security.

3.2 How will data security and protection of sensitive data be taken care of during the research?

Personal data including sensitive data will be processed in accordance with the principles of personal data security in accordance with the Personal Data Protection Security Policy of the Bydgoszcz University of Technology based on the Regulation of the European Parliament and of the Council (EU)2016/679 of April 27, 2016 on the protection of natural persons in relation to the processing of personal data and on the free movement of such data (RODO) and repealing Directive 95/46/EC (General Data Protection Regulation). At the same time, the PBS Information Security Policy will be applied.

4. Legal requirements, codes of conduct

4.1 If personal data are processed, how will compliance with legislation on personal data and on data security be ensured?

The processing of personal data will be carried out in accordance with the General Data Protection Regulation (RODO). Each project participant will be required to familiarize himself/herself with the data protection regulations (RODO) and consent to data processing. All data will be pseudonymized and anonymized, if necessary, before sharing. Support will be provided by the Data Protection Officer.

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The project will not include personal data.

4.2 How will other legal issues, such as intellectual property rights and ownership, be managed? What legislation is applicable?

Copyright of data produced in the project will be regulated by Creative Commons licenses in accordance with the requirements of the grant agreement. In a situation where it is necessary to regulate by other agreements or licenses, the requirements of the Rules and Regulations for the Management of Intellectual Property Rights and their Commercialization in force at the Technical University of Bydgoszcz will be applied.

5. Data sharing and long-term preservation

5.1 How and when will data be shared ? Are there possible restrictions to data sharing or embargo reasons?

The selected data (raw and processed) will be stored and made available in an open research data repository. The data will be available upon completion of the project. It will be possible to locate the data by DOI identifier and URLs. The data storage period is planned for 10 years.

5.2 How will data for preservation be selected, and where will data be preserved long-term (for example a data repository or archive)?

All data will be prepared in accordance with FAIR principles. This applies to both raw and processed data. They will be deposited and made available in the repository. Electronic data archived on the university's arrays upon completion of the project will be stored for 10 years.

5.3 What methods or software tools will be needed to access and use the data?

All data will be saved in formats... (e.g. txt, csv,...). Publicly available freeware (open source software) programs will be used to read them. If dedicated software will be needed to read the data, this will be described.

Data deposited in the open repository will be accessed via a web browser and a graphical user interface. Depositing the data, as well as downloading it, will be free of charge.

5.4 How will the application of a unique and persistent identifier (e.g. DOI) to each data set be ensured?

The repository of open research data in which the data will be deposited assigns unique DOI identifiers.

6. Data management responsibilities and resources

6.1 Who (for example role, position, and institution) will be responsible for data management (e.g. the data steward)?

The project manager will be responsible for data management, procedure evaluation and overall data quality. The task holder will be responsible for data management within the task. The person responsible for all data (DMP completion, data storage and dissemination) will be ... (e.g., project manager, project staff person).

6.2 What resources (for example financial and time) will be dedicated to data management and ensuring the data will be FAIR (Findable, Accessible, Interoperable, Re-usable)?

Data storage and quality assurance in the selected repository will be free of charge. Resources for data management during the period indicated by the grantor will be provided by the Bydgoszcz University of Technology.