DATA MANAGEMENT PLAN

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

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

New data will be generated during experiments and computer analysis. The experimental data will be collected by PC's

directly connected to the instruments. Research procedures, measurement conditions and set-up will be recorded in

the test equipment reports generated with the analysis result and collected by PI and other Investigators in a

During the project, existing data will also be used. The data to be used are available under specific restrictions, which

we will follow in our project: CC-BY or CC-BY-NC.

Pozyskiwane lub opracowywane dane (np. rodzaj, format, ilość)

The following formats will be used during measurements and analysis: TIFF, JPEG, xrdml, opj, csv, txt, xlsx.

All data selected for long-term archiving and sharing, will be in suitable open format like: txt, pdf, TIFF, JPEG. We expect

## What data (for example the types, formats, and volumes) will be collected or produced?

to have not more then 1024 GB of data in this formats.

# 2. Documentation and data quality

## What metadata and documentation (for example methodology or data collection and way of organising data) will accompany data?

We will document more metadata than needed for reproducibility. We will use README files to document data origin

and generation/processing steps Description of our folder organisation :

Project\_name/Exp\_name/Date/sample\_name.txt

Gdańsk University of Technology with metadata standards such as DataCite. Metadata description will be stored in

JSON-LD format. Contributor will be identified and authorized by an ORCID number.

Stosowane środki kontroli jakości danych

High care of sample characterization will be undertaken fulfilling the FAIR standards. Mesuring data will be mostly

created and collected automatically by measuring instruments, which will be calibrated according to manufacturer

Before performing tests the measuring unit will be tested using standard materials delivered by manufacturer. If

needed, we will define a way to detect file or sample swaps, e.g. by measuring something independently.

## What data quality control measures will be used?

Selected data will be facilitated by open research data repository, The MOST Wiedzy Open Research Catalog from

# 3. Storage and backup during the research process

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

The created and collected data in raw form and as result of analysis or post-processing will be stored on Gdańsk Tech

bussiness computer and shared workspace. All data derived from measuring units will be also stored on controlling

PC's. The backup process will be done monthly and backup files will be stored on external hard drive and shared

workspace. This work space will be run by dedicated specialists.

Sposób zapewnienia bezpieczeństwa danych oraz ochrony danych wrażliwych podczas badań

Only project members will have read access; only selected project members will be able to write data. Intranet disc

space (array) governed by Gdańsk Tech and protected by passwords, will be used for sharing data with coworkers. The

backup of all the data will be done during the whole project duration.

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

# 4. Legal requirements, codes of conduct

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

We don't need any consent for collected data because those are not personal.

Sposób zarządzania innymi kwestiami prawnymi, np. prawami własności intelektualnej lub własnością. Obowiązujące

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The right to all generated data will be In line with university policy. The data and results will be published in open-

access model under the one of the Creative Commons licenses.

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

# 5. Data sharing and long-term preservation

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

During the research team meetings will discuss the gathered data and will decide on what part of research data is

worth being included in repository and whether it is self-explanatory in its current form or will need an additional

processing.

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

The data set will be stored in: MOST Wiedzy Open Research Catalog. We have contacted the repository. The dataset

will be kept as long as technically possible.

If needed the part of the data will be published in scientific journals which may also require raw data publication.

The MOST Wiedzy Open Research Data Catalog will be the main data repository.

The data provided in the repository will fulfill FAIR requirements.

The shared data will be in open formats, so there will be no need for specialized software by recipients.

The datasets provided in the repository will have the DOI assigned.

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

Sposób wyboru danych przeznaczonych do przechowania oraz miejsce długotrwałego przechowywania danych (np.

repozytorium lub archiwum danych)

Metody lub narzędzia programowe umożliwiające dostęp do danych i korzystanie z danych

Sposób zapewniający stosowanie unikalnego i trwałego identyfikatora (np. cyfrowego identyfikatora obiektu (DOI)) dla

każdego zestawu danych

## How will the application of a unique and persistent identifier (such us a Digital Object Identifier (DOI)) to each data set be ensured?

# 6. Data management responsibilities and resources

## Who (for example role, position, and institution) will be responsible for data mangement (i.e the data steward)?

## 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)?