



PROGENY

Proto-Opto-Electro-Mechanical Hybrid Systems  
for Generation-Next Bionic Devices

**D6.5**

**1<sup>st</sup> Update of Data Management Plan (DMP)**

Date: 11.07.2022



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**Acronym: PROGENY**

**Title: Proto-Opto-Electro-Mechanical Hybrid Systems for Generation-Next Bionic Devices**

**List of Beneficiaries**

No	Name	Short name	Country	Project entry month <sup>8</sup>	Project exit month
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2	CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE CNRS	CNRS	France	1	42
3	UNIVERSITAET BREMEN	UBremen	Germany	1	42
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6	UNIVERSITEIT LEIDEN	ULEI	Netherlands	1	42
7	UASABI INOVEYSHANS	WI	Bulgaria	1	42

**DATA MANAGEMENT PLAN (DMP)**

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## EXECUTIVE SUMMARY

This **Deliverable D6.5** presents the 1<sup>st</sup> update of the Data Management Plan (DMP), D6.3 for the H2020 FET-Open project PROGENY (GA 899205). The document explains which research data is generated and used by the project and how it will be made findable, accessible, interoperable and re-usable during and after the project duration. This Data Management Plan provides an overview on the diversity, scale and amount of data, which will be handled during the PROGENY project.

The DMP is not a fixed document, but evolves during the lifespan of the project. It will be updated, whenever significant changes arise, such as new data, changes in consortium policies or changes in consortium composition. A final update of the Deliverable is planned in **M36**.

## Table of contents

<b>EXECUTIVE SUMMARY .....</b>	<b>2</b>
<b>1. DATA SUMMARY .....</b>	<b>4</b>
<b>2. FAIR DATA .....</b>	<b>4</b>
<b>2.1 Making data findable .....</b>	<b>4</b>
<b>2.2 Making data openly accessible .....</b>	<b>4</b>
<b>2.3 Making data interoperable .....</b>	<b>5</b>
<b>2.4 Increasing data re-use .....</b>	<b>5</b>
<b>3. ALLOCATION OF RESOURCES .....</b>	<b>5</b>
<b>4. DATA ORGANIZATION AND DATA SECURITY .....</b>	<b>5</b>
<b>5. DATA PRIVACY AND ETHICAL ASPECTS .....</b>	<b>5</b>
<b>6. OTHER ISSUES / POLICIES .....</b>	<b>5</b>
<b>7. HISTORY OF CHANGES .....</b>	<b>6</b>
<b>ATTACHMENT 1 .....</b>	<b>7</b>

## 1. DATA SUMMARY

PROGENY aims to design advanced, functional protonic materials to be used in revolutionary biomimetic devices and sensors branded as proto-opto-electro-mechanical systems (POEMS). Within the project, new electronic surfactant molecules will be synthesized, characterized and modelled; new categories of electronic soap films will be characterized and tested; new devices will be designed and fabricated. Research data includes experimental data from measurements, modelling data and data from the Life Cycle Assessment. Data will be collected in the file formats txt, pdf, pptx, docx, xtc and trajectory files from NEXMD (estimated size of data: GB range). The methods of data collection and analysis are described in Annex 1 to the Grant Agreement (Description of the Action) in the Work Packages WP2 (Materials Synthesis), WP3 (Soap Characterizations), WP4 (Device R&D Device R&D) and WP5 (POEMS for the Future).

An overview of the PROGENY datasets is provided in Attachment 1.

## 2. FAIR DATA

### 2.1 Making data findable

General project data, including meeting minutes, presentation drafts, design blueprints, part of the modelling and simulation data, videos and images, and publication manuscripts will be stored in a safe repository at Technische Universitaet Dresden. PROGENY PIs and research staff can access this password-protected cloud, which is hosted on secure servers of the university, through the Intranet link at <https://progeny-project.eu/>. The consortium members will be notified by e-mail when an important document is uploaded in the intranet. WP3 data is stored by CNRS in their own MyCore CNRS repository.

To make data findable, it will be stored according to the following format:

PROGENY\_WPx\_Tx.y/Title\_Beneficiary\_Date

In case, the data cannot be associated to a Work Package and/or task, a self-explanatory title will be used according to the following format:

PROGENY\_Title\_Beneficiary\_Date

Any published data will be given a DOI by the used repository and will be linked via the DOI to corresponding publications and to appropriate research information systems. We will provide adequate metadata to the journals, repositories and research information systems in order to make the data findable. Main modelling results will be disseminated through the European Materials Modelling Council ensuring wide research visibility.

### 2.2 Making data openly accessible

Data relevant for other researchers will be made publicly accessible. PROGENY will provide open access to raw data corresponding to modelling, as well as data required to reproduce the results presented in publications. WP3 data is accessible to all WP3 contributors in the "Experimental data" section of WP3's CNRS/MyCore institutional repository. It can be shared to others upon request. Processing and visualization programs are written in python and stored alongside in the "Data analysis" section. Visualisations are stored in the "Images" section.

ZENODO will be used as a repository for data publication. We will consider using suitable disciplinary repositories and/or suitable communities at Zenodo, that are known and recognized in the relevant disciplines.

### **2.3 Making data interoperable**

Data and metadata will be adequately documented enabling comprehension or reuse by other researchers in accordance with the FAIR principles. Whenever possible, the data will (also) be stored in non-proprietary open file formats. We will use suitable standards or document our own standards, if necessary. In particular, we will consider the recommendations of the European Materials Modelling Council on metadata and standards.

### **2.4 Increasing data re-use**

During the course of the project, the project partners will discuss and specify the data to be archived. Access to data will be provided under an open license.

## **3. ALLOCATION OF RESOURCES**

Responsibility for data management during the project: Technische Universitaet Dresden (TUD)

Responsibility after the end of the project: Wasabi Innovations (WI)

The project uses IT resources of TUD and the support of its local Service Center Research Data as well as IT resources of the partners (e.g. CNRS for WP3 data).

The costs of short-term data storage, and of preparing data and documentation for long term storage will be borne by the project partners.

## **4. DATA ORGANIZATION AND DATA SECURITY**

The data collected in the project is stored centrally on servers of TUD or, in case of WP3, on servers of CNRS. Access to the research data is regulated through user rights. A TUD service is used for sharing data with external partners. The research data is stored in a uniform structure and naming convention that is still comprehensible after the end of the project. Backup of data on TUD servers is conducted using a backup system of the TUD Center for Information Services and High Performance Computing (ZIH). The research data will be archived at the end of the project, and will be stored for at least 10 years. Archiving will be fulfilled self-responsibly at the TUD research institute IAPP or using the institutional archive system in accordance with TUD guidelines. TUD provides a secure and fail-safe IT infrastructure for the mentioned services.

## **5. DATA PRIVACY AND ETHICAL ASPECTS**

No personal data in the context of the General Data Protection Regulation (GDPR) will be handled during the project.

## **6. OTHER ISSUES / POLICIES**

The data management in this project follows the EU Horizon 2020 guidelines on open access and data management and the Guidelines for Safeguarding Good Scientific Practice as well as the Guidelines on the Handling of Research Data of TUD. We also keep attention to related disciplinary research data management guidelines such as those by the European Materials Modelling Council (e.g. <https://emmc.info/emmc-csa->

[white-paper-for-standards-of-modelling-software-development/](#)) and follow activities of consortia of the German National Research Data Infrastructure (NFDI) such as NFDI4Ing, NFDI-MatWerk and NFDI4Chem ([https://www.dfg.de/foerderung/programme/nfdi/gefoiderte\\_konsortien/index.html](https://www.dfg.de/foerderung/programme/nfdi/gefoiderte_konsortien/index.html); <https://www.nfdi.de/konsortien-2>).

## 7. HISTORY OF CHANGES

Version no.	Date	Changes
Version 1	30.06.2021	Initial DMP
Version 2	30.06.2022	1 <sup>st</sup> update of DMP

## ATTACHMENT 1

Overview of PROGENY Datasets (continuously updated)



