Data Management Plan V1

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List of figures and tables

List of abbreviations

D.XY	Deliverable (with respective deliverable number)
WP	Work Package
T.	Task
D.	Deliverable
CSA	Coordination and Support Action
ORD	Open Research Data
DMP	Data Management Plan
FAIR	Findable, Accessible, Interoperable, Reusable
GDPR	General Data Protection Regulation
EC	European Commission
H2020	Horizon 2020
M	Month

Executive Summary

The current deliverable is the first version of the BrainTwin Data Management Plan. It outlines how various type of data created in respect to the project activities will be handled during and after the project, describing what data will be collected, processed or generated and whether and how this data will be shared and/or made open, and how it will be managed and preserved. This document will serve as a reference for all BrainTwin consortium partners in implementing the defined measures and activities to achieve the project objectives. The content of this deliverable will be updated if and as needed to reflect adaptations and changes during the progress of the project, as depicted in the next figure:
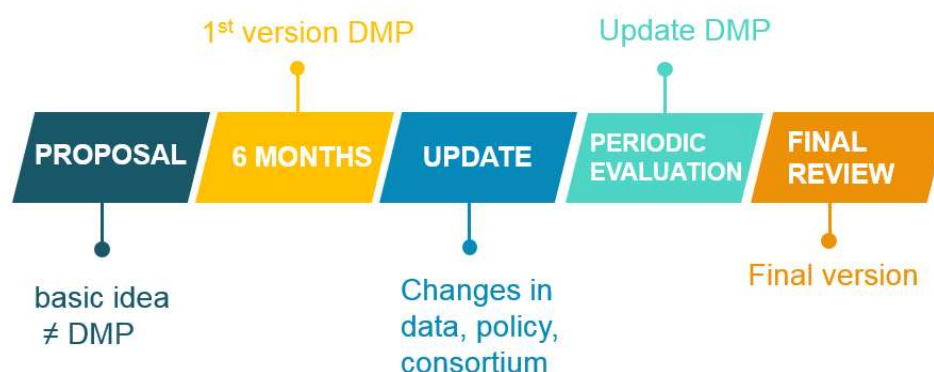

Figure 1: The BrainTwin Data Management Plan update path

1   Introduction

BrainTwin aims to form the basis for a significant strengthening of Neuroengineering in the most important technical university of the North-East region of Romania - Technical University Gheorghe Asachi from Iasi (TUIASI), by establishing a European centre for excellence in this field. To achieve its objectives, BrainTwin will facilitate an extensive exchange of knowledge and experience between TUIASI and leading international partners in Germany, Spain and Austria, through a comprehensive set of twinning and dissemination measures and activities targeting Neuroengineering stakeholders from academia, the policy making sector and industry. This document introduces the first version of the project Data Management Plan (DMP).

BrainTwin participates in the Open Research Data Pilot (ORD pilot), through which the European Commission aims to improve and maximize access and reuse of research data generated by Horizon 2020 projects. The ORD pilot considers the need to balance openness and protection of scientific information, commercialisation and Intellectual Property Rights (IPR), privacy concerns, security as well as data management and preservation questions.

The DMP describes the data management life cycle for the data to be collected, processed and/or generated by the project. The BrainTwin DMP provides an analysis of the main elements of the data management policy that will be used by the consortium regarding all the datasets that will be generated by the project. It ensures that the research data will be findable, accessible, interoperable and re-usable (FAIR).

It also lists the different datasets that will be used, collected and generated by the project, the main exploitation perspectives of these datasets, and the major management principles the project will implement to handle these.

The DMP is not a fixed but rather a living document that will evolve through the lifespan of the project. This first version of the DMP includes an overview of the datasets to be produced by the project and the specific conditions that are attached to them. The DMP will cover the complete data life cycle.

This Data Management Plan is formulated in accordance with the Guidelines to FAIR data management in Horizon 2020and EU Regulation 2016/679 (GDPR), and in connexion with the deliverable D1.1 POP-H-Requirement No 1. The Horizon 2020 DMP template was used in the elaboration of this document.

2   Data summary

BrainTwin is a Coordination and Support Action (CSA) that does not intend to run any laboratory/ experimental research. The transfer of cutting-edge experimental and theoretical techniques will be done using already existing scientific data, in the process of exchange of scientific knowledge and data. However, various type of data will be collected and/or created in the context of the project activities, such as:

- Data on project management and coordination **-** data about the project partners, data generated by the consortium meetings, reporting data related to project management.

- Data on project's twinning activities **-** pool of science related material that originates from the project's twinning activities, pool of material that originates from the meetings with policy makers and industrial stakeholders from medical engineering services and health care institutions, reporting data generated by the twinning activities of the project.

- Data on workshops and summer schools for early stage researchers **-** pool of science related material that originates from the project's BarCamps and International Summer Schools, reporting data generated by the project's BarCamps and International Summer Schools.

- Key performance and output indicators for assessment of the BrainTwin scientific improvement and impacts.

In order to collect all relevant information on the project's data mentioned above, a dedicated table was generated for each dataset and provided to the consortium partners. Topics covered in these tables include all relevant information, such as description of identification, responsible partners, use of metadata, definition of data formats, provisions to make data FAIR, security and ethical issues. The tables with detailed information on each data set are provided in Annex III to this deliverable.

With regard to the collection and processing of personal data that will be consolidated during the twinning activities, communication and other dissemination activities, compliance with the Horizon 2020 ethical standards, General Data Protection Regulation 2016/679 of the European Parliament and the Council and national data privacy regulations will be ensured. The list of the BrainTwin meetings, workshops and summer schools is provided in Annex I.

3   FAIR Data

FAIR data efforts will take into account data privacy requirements. In particular, personal data will be treated confidentially and in compliance with the EU General Data Protection Regulation 2016/679.

BrainTwin aims at generating FAIR data, i.e. data that is findable, accessible, interoperable and reusable.

3.1 Making data findable, including provisions for metadata

In order to make data findable, metadata will be used. All partners have agreed in providing relevant metadata and keywords, so that their data will be easily discoverable. Clear version numbers will be included (automated process through the project repository) and standard naming conventions will be defined.

3.2 Making data openly accessible

The consortium partners already identified which data will be made openly available and which cannot be shared (or needs to be shared under restriction), including the reason why access is restricted in the latter case.

In the next DMP versions, more details will be provided regarding the accessibility of the data. Details on the repository, the methods and tools necessary to access the data will be included in future versions of the DMP. The consortium aims at using the project website (or other easily accessible repositories) as repository for open accessible (public) data, ensuring easy access to anyone interested.

3.3 Making data interoperable

Provisions are also taken to make data interoperable, making it easier to exchange and re-use them across research institutions, organisations, etc. The project strives in making all open data interoperable.

3.4 Increase data re-use

The public content made available via the project website (http://www.braintwin.eu) will be available for download and re-use with no restrictions or embargo.

3.5 Allocation of resources

The costs for data collection and storage fall within the activities covered by the current grant. The responsibility for managing data underlying BrainTwin activities will lie with the partners leading the work packages and the authors of the individual research studies or deliverables.

4   Data security

During the implementation of the BrainTwin project the consortium members will collect data in various forms, e.g. pen and paper, photos, videos, electronic documents. For the purpose of the project documentation this data will be stored individually by each partner. For this, the respective organisational rules and regulations of each partner with respect to data storage and security apply.

Personal contact data collected during the project activities will be kept internally within the BrainTwin consortium. Storing of personal data will only occur with explicit prior informed consent of subjects, based on the informed consent procedures as laid out in D1.1 POP-H-Requirement No 1.D. Each partner is responsible to ensure that those data are safely and securely stored, in full compliance with

European Union data protection laws. Any collected personal data will be deleted from the project's data storage five years after the end of the project.

5   Ethical aspects

All BrainTwin activities will be conducted according to national legal and ethical requirements of the countries they take place in, namely, Romania, Germany, Spain, and Austria. Furthermore, BrainTwin will comply with Horizon 2020 ethical standards and guidelines and with the provisions of the General Data Protection Regulation 2016/679   for the collection and processing of personal data in meetings, communication and dissemination activities.

The deliverable D1.1 POP-H-Requirement No 1 provides a detailed description of the technical and organisational measures to be implemented for compliance of activities of this project with ethical requirements related to the guidelines of Horizon 2020 projects.

6   Conclusions

This document addresses the steps for data management which are to be followed during the execution of the BrainTwin project. The scope of the BrainTwin's Data Management Plan is to provide the main elements of the data management policy that will be used by the consortium regarding the different type of data processed by the project while ensuring that the project public outcomes will be findable, accessible, interoperable and re-usable (FAIR).

The current version of the BrainTwin's Data Management Plan gives a preliminary information about the data sets that will be used, collected and generated by the project, the main exploitation perspectives of these datasets, the major ethical principles the project will implement to handle these, as well as the means of sharing data captured within the BrainTwin framework and the methods of data storage, thus providing general view over the complete data management life cycle.

As this document is generated at the early stage of the project implementation, it is considered as a living document which will be further updated during the project life time if needed.

7   Annexes

Annex I – BrainTwin workshops, scientific meetings, summer schools

Task	Event	Month	Host
	Workshops and Meetings		
T2.1	Kick-off meeting	M02	TUIASI
T5.1	Scientific Writing Workshop 1	M03	TUIASI
T6.1	Proposal Writing Workshop 1	M03	TUIASI
T3.2	Capacity building Workshop 1	M04	TUIASI
T6.2	"Bridging the gap" between research and innovation Workshop 1	M08	TUIASI
T6.2	Meeting with Policy Makers 1	M08	TUIASI
T2.1	Annual meeting 1	M12	USAL
T3.2	Capacity building Workshop 2	M16	TUIASI
T5.1	Scientific Writing Workshop 2	M16	TUIASI
T6.1	Proposal Writing Workshop 2	M16	TUIASI
T6.2	"Bridging the gap" between research and innovation Workshop 2	M20	TUIASI
T6.2	Meeting with Policy Makers 2	M20	TUIASI
T2.1	Annual meeting 2	M26	Fraunhofer
T5.1	Scientific Writing Workshop 3	M35	USAL
T6.1	Proposal Writing Workshop 3	M35	TUIASI
T6.2	"Bridging the gap" between research and innovation Workshop 3	M35	TUIASI
T6.2	Meeting with Policy Makers 3	M35	TUIASI
T3.2	Capacity building Workshop 3	M35	TUIASI
T2.1	Annual meeting 3	M36	TUIASI
	Workshops and Summer Schools for early stage researchers		
T4.2	Neural Engineering and Neuroimaging BarCamp 1	M09	TUIASI
T4.3	BrainTwin international Summer School 1	M11	TUIASI
T4.2	Neural Engineering and Neuroimaging BarCamp 2	M21	TUIASI
T4.3	BrainTwin international Summer School 2	M23	TUIASI
T4.2	Neural Engineering and Neuroimaging BarCamp 3	M33	TUIASI
T4.3	BrainTwin international Summer School 3	M35	TUIASI

Annex II - Informed Consent Form

INFORMED CONSENT FORM

Name of the event	
Date	
Venue	
Organized by	

Dear Participant,

You have been invited to participate in the (*Name of the event/meeting/workshop)* organised within the project **Development Of A World-Level Neuroengineering Research Centre By European Twinning – BRAINTWIN.**

Participation is completely voluntary. If you agree to participate now, you can always change your mind later. There are no negative consequences, whatever you decide.

Any contact data collected during the registration process (i.e. name, name of organisation, faculty or department, e-mail address) will be kept internally within the BrainTwin consortium and will not be published or accessible to external organizations or individuals.

Also, any personal data and technical comment or presentation that will be collected in the course of the event will be stored electronically on the project's shared Google drive folder and project's EMDESK Stay on track project management tool. Each of these is accessible to the project's consortium only. These data will not be shared and cannot be accessed and copied by any external party.

Signatures
If you have had all your questions answered and would like to participate in this workshop, sign on the lines below. Remember, your participation is completely voluntary, and you're free to withdraw from the event at any time.

Name of Participant

Signature of Participant   Date

Annex III. BrainTwin datasets details

Dataset no.1 - Project management and coordination data

PROJECT MANAGEMENT AND COORDINATION DATA	
Data identification	**Data description**
Data about the project partners	Mailing list, address and bank details for the distribution of the financial contribution of the Financing Authority
Consortium Meetings' Data	Data generated by the KoM (M2) and of those three annual SCOM Meetings (M8, M26, M36)
Reporting data	Data on using/reallocation of the budgetary resources, data on the progress of the project activities according to the respective tasks, milestones and deliverables, data on the actual performance against the project's objectives and KPIs
Source of data	Data provided by the project partners
Partners responsibilities	
Partner in charge of data collection	TUIASI
Partner in charge of data analysis	TUIASI
Partner in charge of data storage	TUIASI
Related WP(s) and task(s)	WP 2, T2.1, T2.2, T2.3
Standards	
Info about metadata (production and storage dates, places) and documentation	All relevant reporting data and documents will be stored, as appropriate, in dedicated project files, or electronically, through the reporting interfaces of the "Stay on track" management tool (EMDESK) as well as in the project's Google Drive folder.
Formats	Various forms, e.g. pen and paper, photos, videos, electronic documents.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used to monitor the progress of the project implementation and prepare project progress reports, as well as for financial control and payments.
Data access policy / Dissemination level	All data collected from the project partners will be kept confidential. The official periodic reports (technical and financial) and project deliverables submitted to the EC are confidential.
Data sharing, re-use, distribution, publication	The reporting data will be shared by the project partners electronically through the reporting interfaces of the "Stay on track" management tool (EMDESK) and the project's Google Drive folder. The official periodic reports and the minutes of the consortium meeting (D 2.1, D2.4, D2.4, D2.5) will be submitted through the EC Funding & Tenders Portal.
Embargo periods (if any)	N/A
Personal data protection	Personal data of the project team personnel, Supervisory Board, Young Science Council, Twinning Coordination Committee, BrainTwin Education

	Committee and Editorial Working Group Committee (mailing list, etc.) are for internal use only.
Archiving and preservation (including storage and backup)	
Data storage (including backup)	The data sets used in the project management and coordination will be stored during the project implementation, as appropriate, in dedicated project files, or electronically, through the reporting interfaces of the "Stay on track" management tool (EMDESK) as well as in the project's Google Drive folder. The relevant datasets relating to these activities will be stored in dedicated databases for a 5 years period after the end of the project.

Table 1: Dataset no.1- Project management and coordination data

Dataset no.2 - Twinning activities

TWINNING ACTIVITIES		
Data identification	**Data description**	**Related WP(s) and task(s)**
Pool of science related material that originates from the project's twinning activities	Videobooks of transferable trainings including lectures and presentations from the project workshops on "scientific and technological capacity building	WP3, T3.2
	Video files from webinars resulted from the short term staff exchanges	WP3, T3.3
	Video files from webinars resulted from the short term expert visits	WP3, T3.4
	Material from the Scientific writing Workshops	WP5, T5.1
	Material from the BrainTwin Paper Contest	WP5, T5.2
	Material from the Proposal writing Workshops	WP6, T6.1
Pool of material that originates from the meetings with policy makers and industrial stakeholders from medical engineering services and health care institutions	Material from the "Bridging the gap" between research and innovation Workshops Material from Meetings with Policy Makers	WP6, T6.2
Reporting data generated by the twinning activities of the project	Data on the project workshops' results, lists of lecturers and participants, workshops' agendas, data on the short staff exchanges and short terms expert visits, the selection and assessment procedures for the Paper Contests, results of the Paper Contests, etc.	
Source of data	Data provided by the responsible Task Leader	
Partners responsibilities		
Partner in charge of data collection	Responsible Task Leaders and TUIASI (the host organization)	
Partner in charge of data analysis	All Partners	
Partner in charge of data storage	TUIASI	

Standards	
Info about metadata (production and storage dates, places) and documentation	For the purpose of the project documentation this data will be stored individually by each partner involved in the twinning activities.
Formats	MS Office format (docx, xlsx, pptx) and pdf, images (svg, png, jpg), videos (mp4)
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	These data will be used for developing the related public deliverables of the project (the reports targeting the EC and the scientific community as well as the public more in general, the video books of transferable trainings) and for communication and dissemination purpose.
Data access policy / Dissemination level	The reporting data provided by the project partners will be kept confidential. The protection and procedures about the use of IPRs will be applicable to outputs explicitly resulting from the project Twinning activities. The reports and other related deliverables on the twinning activities will be public but will only include non-sensitive data.
Data sharing, re-use, distribution, publication	The reporting data will be shared by the project partners electronically through the reporting interfaces of the "Stay on track" management tool (EMDESK) and the project Google Drive folder. The project deliverables will be submitted to the EC Funding & Tenders Portal. The public deliverables of the project will be published under "Resources" on the project website.
Embargo periods (if any)	N/A
Personal data protection	Data collected on the participants attending workshops, meetings and paper contests will be limited to required registration data, i.e. name, name of organisation, faculty or department, role in the organisation, and contact data (email address). An Informed Consent Form (Annex I) explaining the use of the personal data will be available for consultation as part of the registration form and its approval will be necessary to complete the subscription.
Archiving and preservation (including storage and backup)	
Data storage (including backup)	The twinning activities data and related public deliverables will be stored electronically, through the reporting interfaces of the "Stay on track" management tool (EMDESK) and on the project Google Drive folder, during the project implementation. The relevant datasets relating to these activities will be stored in dedicated databases for a 5 years period after the end of the project.

Table 2: Dataset no.2 - Twinning activities

Dataset no.3 - Workshops and Summer Schools for early stage researchers

WORKSHOPS AND SUMMER SCHOOLS FOR EARLY STAGE RESEARCHERS	
Data identification	**Data description**
Pool of science related material that originates from the project's BarCamps and International Summer Schools	Material from the Students BarCamps on "Neural Engineering and Neuroimaging" workshops and presentations Material from the International Summer workshops and presentations
Reporting data generated by the project's BarCamps and International Summer Schools	Data on the project's BarCamps and International Summer Schools programmes and results, lists of lecturers and participants, workshops' agendas etc.
Source of data	Data provided by the WP4 Leader - Fraunhofer
Partners responsibilities	
Partner in charge of data collection	Fraunhofer and TUIASI (the host organization)
Partner in charge of data analysis	Fraunhofer and TUIASI
Partner in charge of data storage	TUIASI
Related WP(s) and task(s)	WP 4, T 4.2, T4.3
Standards	
Info about metadata (production and storage dates, places) and documentation	For the purpose of the project documentation this data will be stored individually by each responsible partner.
Formats	MS Office format (docx, xlsx, pptx) and pdf, images (svg, png, jpg), videos (mp4)
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	These data will be used for developing the related public deliverables of the project (the reports on the project's BarCamps and Summer Schools targeting the EC and the scientific community as well as the public more in general (D4.2, D.4.3) and for communication and dissemination purpose
Data access policy / Dissemination level	The reporting data provided by the project partners will be kept confidential. The protection and procedures about the use of IPRs will be applicable to outputs explicitly resulting from the projects' summer schools. The reports (D 4.2, D4.3) on the projects' BarCamps and International Summer Schools will be public but will only include non-sensitive data.
Data sharing, re-use, distribution, publication	The reporting data will be shared by the project partners electronically through the reporting interfaces of the "Stay on track" management tool (EMDESK) and the project Google Drive folder. The project deliverables (D 4.2, D4.3) will be submitted to the EC Funding & Tenders Portal. The material for communication and dissemination resulted from the projects' summer schools and the public deliverables of the project will be published under "Resources" on the project website.
Embargo periods (if any)	N/A
Personal data protection	Data collected on the participants attending project's BarCamps and Summer Schools will be limited to

	required registration data, i.e. name, name of organisation, faculty or department, role in the organisation, and contact data (email address). An Informed Consent Form (Annex I) explaining the use of the personal data will be available for consultation as part of the registration form and its approval will be necessary to complete the subscription.
Archiving and preservation (including storage and backup)	
Data storage (including backup)	This data and related public deliverables will be stored electronically, through the reporting interfaces of the "Stay on track" management tool (EMDESK) and on the project Google Drive folder, during the project implementation. The relevant datasets relating to these activities will be stored in dedicated databases for a 5 years period after the end of the project.

Table 3: Dataset no.3 - Workshops and Summer Schools for early stage researchers

Dataset no.4 - Key performance and output indicators

KEY PERFORMANCE AND OUTPUT INDICATORS	
Data identification	
Data description	Set of key performance and output indicators for assessment of the BrainTwin scientific improvement and impacts
Source of data	Data processed and provided by Leaders of WP3, WP4, WP5, WP6
Partners responsibilities	
Partner in charge of data collection	TUIASI
Partner in charge of data analysis	The Twinning Coordination Board and the Educational BrainTwin Board (composed by representatives of all the project partners)
Partner in charge of data storage	TUIASI
Related WP(s)	WP3, WP4
Standards	
Info about metadata (production and storage dates, places) and documentation	All relevant data and documents will be stored electronically through the dedicated interfaces of the "Stay on track" management tool (EMDESK) as well as in the project's Google Drive folder.
Formats	MS Office format (docx, xlsx, pptx) and pdf for the final reports/documents.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	These data will be used for assessment of the project's scientific improvement and impact as well as to develop the periodic progress reports and communication and dissemination material.
Data access policy / Dissemination level	These data are confidential (only for the members of Consortium and Commission Services)
Data sharing, re-use, distribution, publication	These data will be shared by the project partners electronically through the reporting interfaces of the

	"Stay on track" management tool (EMDESK) and the project Google Drive folder.
Embargo periods (if any)	N/A
Personal data protection	N/A
Archiving and preservation (including storage and backup)	
Data storage (including backup)	This data will be stored during the project implementation electronically, through the reporting interfaces of the "Stay on track" management tool (EMDESK) as well as in the project's Google Drive folder. They will be stored in dedicated databases for a 5 years period after the end of the project.

Table 4: Dataset no.4 - Key performance and output indicators