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DELIVERABLE REPORT

PROJECT DETAILS

PROJECT ACRONYM	PROJECT TITLE
NEP	Nanoscience Foundries and Fine Analysis - Europe|PILOT

GRANT AGREEMENT No:	FUNDING SCHEME
101007417	RIA - Research and Innovation action

START DATE

01/03/2021

WORK PACKAGE DETAILS

WORK PACKAGE ID	WORK PACKAGE TITLE
WP1	Project management

WORK PACKAGE LEADER

Dr. Laura Esposito (CNR)

DELIVERABLE DETAILS

DELIVERABLE ID	DELIVERABLE TITLE
D – D1.1	Data Management Plan (DMP)

DELIVERABLE DESCRIPTION

The document presents the first version of NEP Data Management Plan (NEP-DMP) for the entire project, and describes the measures envisaged to efficiently manage the data collected and generated during the project.

The NEP-DMP is intended to be a *living document* in which information can be made available on a finer level of granularity through updates as the implementation of the project progresses and when significant changes occur. The document is therefore versioned in order to keep track of changes and improvements.

The NEP-DMP outlines how Research Data and personal data collected or generated during and after project completion will be handled, providing guidance to project partners. It describes the standards and methodologies for the collection and generation of data that will

be applied throughout the duration of the project, as well as the conditions for sharing and publishing such data. This document aims to facilitate the creation of common understanding and, where possible, common practices.

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NATURE

ORDP: Open Research Data Pilot

DISSEMINATION LEVEL

☒   P - Public

☐   PP - Restricted to other programme participants & EC: (Specify)

☐   RE - Restricted to a group   (Specify)

☐   CO - Confidential, only for members of the consortium

REPORT DETAILS

VERSION	DATE	AUTHOR(S)	DESCRIPTION / REASON FOR MODIFICATION	STATUS
0.6	26/07/2021	I.Modolo E.Osmenaj	First Draft	Draft
0.8	05/08/2021	S.Cozzini E.Piacini	First revision	Choose an item.
0.10	13/08/2021	M.Panighel E.Narducci G.Brandino	Further revision	Choose an item.
0.11	27/08/2021	E.Osmenaj I.Modolo	Further enhancements	Choose an item.
1.0	13/09/2021	S.Cozzini E.Piacini G.Brandino E.Osmenaj I.Modolo M.Panighel	Version 1.0 to be circulated among partners	Choose an item.
				Choose an item.
				Choose an item.

ABBREVIATIONS AND ACRONYMS

NFFA-Europe	Nanoscience Foundries and Fine Analysis - Europe
NEP	Nanoscience Foundries and Fine Analysis – Europe|PILOT
DMP	Data Management Plan
FAIR	Findable, Accessible, Interoperable, Reusable
JA	Joint Activities
EOSC	European Open Science Cloud
WP	Work Package
ORD Pilot	Open Research Data Pilot

CONTENTS

1. INTRODUCTION

The present document, NFFA-Europe Pilot Data Management Plan (NEP-DMP), addresses the management of all the Research Data produced within the project, in addition to the personal data needed to run and manage the project itself. This is done in compliance with EU legislation and rules. Its purpose is to define a common strategy related to data management throughout the entire project life cycle.

The NEP project aims at enhancing the Open Access to NFFA-Europe distributed European research infrastructure at the nanoscale, available for academic and industrial researchers, set up with NFFA-Europe previous project. The wide spectrum of Instruments and techniques available in partner's Sites across all Europe are accessible to Registered Users after the submission and approval of a Proposal.

The majority of the scientific data produced within NEP are created by Research Users who access NFFA-Europe Infrastructure. There is also a small part of Research Data produced by the Joint Activities (specifically WPs 11 to 15) which aims to further expand the scientific offer of the NEP project.

This document therefore gives indications on the correct management of the data produced, but it is the responsibility of each Institution providing User Access to ensure a correct production and publication of the FAIR Data.

As this NEP-DMP is a versioned document, each version may vary in length and detail. Readers can consider the NEP-DMP as a living document, which can and will be updated throughout the entire project lifecycle. In order to keep track of different versions, the version number of each NEP-DMP is always included in the administrative section above. All the beneficiaries will be notified when a new version is released.

1.1. Purpose of this document

The main objectives of this document are to:

- Present an overview of the data management in terms of Open Access to project data.

- Provide guidance on existing good practices for producing FAIR Data, on standard Metadata formats and schemes.

- Inform all partners of the data management tools made available by NFFA-Europe, which can be used on a voluntary basis in the absence of an existing workflow.

- Explain how personal data will be collected and processed, to secure adequate management from an ethical and a security point of view.

This document will therefore give indications to manage Research Data in a FAIRway. Each Laboratory will provide a DMP related to the management of their Research Data in compliance with rules and recommendations described in this deliverable.

1.2. Accompanying tools and documents

This document is complemented by a list of other documents that provide information to future Research Users of the NEP infrastructure on the way data will be collected and managed within the project:

Annex 1: detailed glossary with all the definitions needed to deal with data management and NEP procedures. The glossary has the aim of providing a common language with all terms clearly defined.

Annex 2: Data Policy document as elaborated so far. This document is still unofficial, due to the fact it has to be officially approved by the GA of the NEP project. It however offers a clear indication for all NEP Research Users about the way data is supposed to be managed within the entire life of the project.

Annex 3: Data Sharing Agreement between partners that provide Transnational Access. This document provides all the information about Personal Data management across partners in order to fulfill all the requirements dictated by the Data Protection Legislation.

2. OBLIGATIONS

2.1. NEP obligations towards the European Commission

According to the EU regulations, projects that receive funding from the European Union's Horizon 2020 framework programme for research and innovation after 2017 must participate in the Open Research Data Pilot (ORD Pilot). Thus, the NEP project is bound to participate in the ORD Pilot action on Open Access to Research Data.

The ORD Pilot project aims at allowing the access to and the reuse of Research Data generated by Horizon 2020 projects and takes into account the need to balance the openness and protection of scientific information, commercialization and Intellectual Property Rights (IPR), privacy concerns, security as well as issues related to data management and retention.[1]

Open Access to Research Data refers to the practice of providing online access to Research Data that is free to the end user and reusable. EU guidelines specify that ORD Pilot mainly applies to the data needed to validate the results presented in scientific publications. Other data can also be provided on a voluntary basis.

In particular, the projects participating in the ORD Pilot must manage the digital Research Data generated responsibly, in line with the FAIR principles and:

1. deposit in a Research Data Repository and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the Research Data described below[2]:

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[1] Horizon 2020 online manual: Data Management
https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm
[2] H2020 Annotated Model Grant Agreement, article 29.3
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

1.1.   The data, including associated Metadata, needed to validate the results presented in scientific publications as soon as possible;

1.2.   Additional Data, including associated Metadata, as specified and within the deadlines laid down in a Data Management Plan (NEP-DMP).

2.   provide information — via the repository — about tools and Instruments at the disposal of the beneficiaries and necessary for validating the results (and — where possible — provide the tools and Instruments themselves).

2.2.   Mandatory actions for Access Providers

Before welcoming its first Research User in the Laboratory, and in any case before the publication of any Research Data, each Head of Laboratory has to draft and regularly update a DMP related to the management of the Research Data produced in the respective Laboratory. This action is mandatory and if not completed it will prevent the User Access and therefore the payment of UoAs to the Institute. It is the duty of the TLNet Node of each Institute to contact the managers of the various Laboratories (virtual or physical) where the Instruments offered by the NEP project are located, and to invite them to fulfill the obligations indicated here.

The DMP of every Laboratory will have to be drafted and regularly updated using an online tool, called Data Stewardship Wizard, that will be made available to all NEP beneficiaries by the end of the M9, when the first round of approved Proposals will be ready to start.

In the following, we will give an overview on indications and suggestions that should be followed in order to help them in defining their own DMP, in addition to an example of a DMP drafted by one of the laboratories of CNR-IOM Institution. In particular, the DMP has to be drafted taking into account the obligations reported in section 2.3 and adhering to the indications reported in section 2.1 and section 4. Then, the DMP of each Laboratory will be linked to the corresponding Site in the "preferred Site to conduct research" field, listed in the Workplan section of the Proposal submission form.

The DMPs produced by every Laboratory will be added as an Annex of the later versions of this NEP-DMP.

The DMP of each accepted Proposal will originate from the set of DMPs of all the laboratories to which the Research Users will have access.

2.3.   Mandatory actions for Research Users

The ORD Pilot applies primarily to the Research Data needed to validate the results presented in scientific publications (here called Publication Data). Other data can also be provided by the Research Users and the Access Providers on a voluntary basis[3].

The beneficiaries of NEP services (Research Users) must manage the digital Research Data generated responsibly, in line with the FAIR principles and by taking all of the following actions:

1.   actively check for any updates to the Data Policy, linked on NFFA-Europe Portal, and consult the DMPs of the Laboratories where Experiments will be performed;

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[3]   Guidelines on FAIR Data Management in Horizon 2020 https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-data-mgt_en.pdf

2. deposit the Publication Data and Metadata in a repository in compliance with EOSC requirements as soon as possible and the latest on publication of the peer-reviewed scientific article relating to the data; an overview of compliant subject-specific repositories can be found at Re3data, but general open repositories such as Zenodo provide a good alternative;

3. ensure Open Access — via the repository — to the deposited data as soon as possible and at the latest on publication of the peer-reviewed scientific article relating to the data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights;

4. provide information via the repository about any research output or any other tools and Instruments needed to re-use or validate the data.

Methods and reasons for opting out of the publication of Research Data are explained in section 4.2 of this document.

3. DATA SUMMARY

The NEP project will generate data - including associated Metadata - in a wide range of R&D activities, including those needed to validate the results of the project that will be presented in scientific publications and those associated with reports and other documents. An important and sensitive source of data, even if very limited, is personal data associated with the users, needed to be collected and shared among partners to allow the usage of the NEP infrastructure.

The format of the data and associated Metadata collected during NEP activities will be mainly electronic and can be classified in three major categories as follows:

Personal data	
Purpose of the data collection/generation	Personal data will be collected, stored, and processed, according to the ethics and privacy requirements set out in the Grant Agreement, and with the sole purpose of providing the NEP services to allow access and reimbursement.
Data formats / types	From the following list, only data strictly necessary to access specific facilities and services will be collected. Personal data: first name; last name; email address; username; password; gender; nationality; affiliation; affiliation address; affiliation legal status; job position; research role; ORCID; date of birth; place of birth; personal address; fiscal address; phone number; education level; taxpayer code; passport or identity document; visa; insurance data; bank account data.
Origin of the data	Personal data is freely provided by the user during registration or authentication through the NFFA-Europe website. Other personal data such as details of the identity document and insurance and bank account data are required only in case of acceptance of a Proposal and eligibility for NFFA-Europe financial support and provided by the Registered User through the personal data sheet in the reserved area of the website.

Expected size of the data	Less than 500 GB.
Data utility	The data concerning the Research User is collected to allow the project partners to provide their service, comply with their legal obligations, respond to enforcement requests, protect their rights and interests (or those of its users or third parties), detect any malicious or fraudulent activity, as well as for analytics purposes. Specifically, personal data is collected for the following purposes: the management and monitoring of the Research Users' activity at the NFFA-Europe facilities; the Proposal review process; internal statistics and compliance with any legal, contractual and regulatory obligation in relation to the European Commission, auditors and corporate statutory and auditing bodies. Personal data will be shared within the partners who provide Transnational Access. The Data Sharing Agreement (Annex 3) regulates the sharing of this type of data. It has been agreed that each beneficiary is a joint Data Controller in relation to the Personal Data being transferred or shared, pursuant to art. 26 of the GDPR according to the conditions and terms set out in the Data Sharing Agreement and its Annexes.

Project documentation and reports	
Purpose of the data collection/generation	Official documents, deliverables, milestones, meeting reports, statistics, Proposal review evaluations, and other documents. Project's documents are shared between the individual components of the various axes and work packages on a dedicated space on the NFFA Datashare platform. Permissions are managed in a granular way on individual folders and also on individual documents, to ensure an access to data consistent with the roles assigned within the project.
Data formats / types	Open files formats, although some files could be in proprietary formats such as .docx, .xlsx, .pdf
Origin of the data	Project documentation is produced by technical/administrative and research people involved in the project.
Expected size of the data	Less than 500 GB.
Data utility	This data is used to monitor the progress of the project, follow the Proposal approval process on the portal and for compliance with any legal, contractual and regulatory obligation in relation to the European Commission, auditors and corporate statutory and auditing bodies.

Research Data	
Purpose of the data collection/generation	Research Data are collected and generated for specific research activity. It has to be noted that Research Data are mainly acquired through the research Proposals approved by the infrastructure. There is also minimal Research Data acquired by the work done within the NEP Joint Activities (WP from 11 to 15).
Data formats / types	Due to the large variety of Instruments and techniques available, various data formats will be used during the course of the project. NEP will enforce all Publication Data to be in a FAIR and possibly Open Format, while some of the Additional Data, Raw Data in particular, could be in proprietary format.
Origin of the data	Research Data will be collected by Research Users, Instrument Scientists, Access Providers and as outcome of JA at the various partners' Institutions.
Expected size of the data	$\simeq$ 10-50 TB
Data utility	The data could be used for scientific research and further validation, peer reviews, reproducibility and education, in the spirit of FAIR Data.

4. FAIR Data

As a project participating in the Open Research Data Pilot (ORDP) in Horizon 2020, NEP will work to make its Research Data Findable, Accessible, Interoperable, and Reusable (FAIR)[4].

Work Package 16, Implementing FAIR Data approach within NEP, is fully devoted to this challenging task and aims at consolidating what was achieved within NFFA-Europe and then at further developing new tools and services to provide guidelines and procedures for a FAIR Data approach within NEP project. This specific activity will strongly benefit from the suggestions and contributions of the EOSC expert within the executive and strategy committee (ESC) of NEP. This joint activity is actively working to provide data services and support to Research Users (the actual data producers within the project).

For each of the Proposals approved within the infrastructure, the objective of NEP is to provide Research Users and Access Providers with tools ensuring that the general data are managed in a FAIR by design way. In the following sections we will review the activity of WP16 with respect to the four elements of FAIR Data addressing tools/services and support available within the project.

Making data FAIR ensures they can be found, understood and reused by the creator as well as others. A useful tool for researchers and providers is the FAIR Data checklist.

General scheme of FAIR principles[5]:

Findable	• Persistent ID • Metadata online
Accessible	• Data online • Restrictions where needed
Interoperable	• Use standards, controlled vocabularies • Common (open) formats
Reusable	• Rich documentation • Clear usage licence

4.1.   Making data findable, including provisions for Metadata

Every NEP partner will have the possibility to choose whether to adopt tools provided by the project or to use their own tools and good practices that have to be compliant with the FAIR principles.

Metadata of deposited Data must be open under a Creative Common Public Domain License (CC 0) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles (in particular machine-actionable) and provide information at least about the following: Datasets (description, date of deposit, author(s) and Persistent Identifier); Horizon 2020 funding; grant project name, acronym and number (Nanoscience Foundries and Fine Analysis - Europe|PILOT, NEP, 101007417); Proposal ID number; licensing terms. Where applicable, the Metadata must include Persistent Identifiers for related publications and other research outputs.

NEP will make available for each Research Users' accepted Proposal a standard set of Metadata, acquired centrally through the Proposal submission form on the NFFA-Europe portal. Such Metadata are:

Proposal	Title Scientific domain ERC sectors Material system/device Application Keywords State of the art Objectives References Industry involvement

Workplan	Steps
	     Technique
	     Purpose
	     Measurements-processes
	     Technical specifications

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[5] OpenAIRE - The FAIR principles
https://www.openaire.eu/what-are-the-fair-principles

	Sample cycles Equipment
Additional Information	Gender dimension
The team	Team Leader Team members
Samples	Substance name Physical state Chemical formula

This will allow that all the Research Data produced and made available within the NEP will be always findable by means of these sets of Proposal Metadata. For an overview of the Proposal application form: https://nffa.eu/media/268148/Proposal_application_guide.pdf

We underline the fact that with more than 180 different scientific techniques over a wide spectrum it is impossible to identify a unique and meaningful Metadata Schema.

Metadata definition and acquisition associated with scientific Instruments and scientific techniques require a strong commitment and involvement of the research groups. NEP partners generating Research Data are strongly recommended to use Electronic Laboratory Notebooks (ELNs), in order to facilitate good data management practices, data and documentation sharing among researchers, prove provenance and protect from data loss. In this context, NEP will provide an online Electronic Laboratory Notebook, to be used by research partners and Research Users on a voluntary basis.

One of the main goals of WP16 is to provide guidance on the definition of procedures and associated Metadata to help Research Users to have full control of data provenance. This will be defined in the next versions of this deliverable.

In particular, Task 16.3 within the JA6 (EPFL/CNR/eXact lab/KIT) will elaborate and implement FAIR-oriented procedures and recommendations to enforce data provenance in the NFFA scientific Experiment's workflow, from data creation to data usage. The set of procedures will be developed by taking into account needs coming from various communities within NEP. Close attention will be paid to identify and tailor existing Electronic Laboratory Notebooks (ELN) and Laboratory Information Management System (LIMS) solutions for describing Sample processing workflows and (semi-) automated Metadata recording during the Experiments as initial steps for implementing FAIR by design Datasets. KIT can provide support for provenance (e.g., versioning) of existing Metadata created using an already adopted schema and for its storage.

Concerning the Metadata of Research Data, we recommend to follow Dublin Core Metadata Schema, NeXus file format or other more discipline-specific Metadata Schemas and Vocabularies in compliance with the FAIR principles.

4.2.   Making data openly accessible

While Open Access to Research Data thereby becomes applicable by default, NEP also recognizes that there could be reasons to keep some or even all Research Data generated during the User Access closed. Therefore, we will follow the principle "as open as possible, as closed as necessary" for our data.

Each research group must examine the possibility of protecting its results opting out from the publication of its Research Data — for an appropriate period and with appropriate territorial coverage — if[6]:

- the results can reasonably be expected to be commercially or industrially exploited and

- protecting them is possible, reasonable and justified (given the circumstances).

The possibility of opting out in particular is provided for Proposals approved within NFFA-Europe Infrastructure if one or both of these cases occur:

- providing Open Access would be against the beneficiary's or user's legitimate interests, including commercial exploitation;

- providing Open Access would be contrary to any other constraints, in particular the EU competitive interests or the beneficiary's obligations under this Agreement;

If Open Access is not provided (to some or all data), this must be justified. The next version of this document will specify the detailed procedure and limitations of the opt out.

Data repositories provide Persistent Identifiers (PID) to data and Metadata, so that they can be cited, linked and tracked. The intent of NEP for the future is to provide a trustworthy Data Repository, recognized within the EOSC framework, which supports Open Access and can be offered to partners.

To store Research Data and electronic copy of the peer-reviewed scientific publications, NEP suggests using publishing repositories in compliance with EOSC requirements. We mention, in particular, Zenodo, hosted at CERN in Geneva (Switzerland) and available at https://zenodo.org/. Supported Metadata formats are: BibTeX, CSL, DataCite, Dublin Core, DCAT, JSON, JSON-LD, GeoJSON, MARCXML and Mendeley. An overview of compliant subject-specific repositories can be found at Re3data.

4.3.   Making data interoperable

To make data interoperable, that is allowing data exchange and integration between researchers, Institutions, organizations, countries, etc, Research Data produced within the project will adhere to standards for formats, as much as possible compliant with available (open) software applications, making possible for third parties to access, mine, exploit, reproduce and disseminate it - free of charge for any user.

One of the main objectives of NEP is the creation of an advanced system for data and Metadata management and the implementation of Metadata Schemas for the scientific techniques in the NEP catalogue. These Schemas aim to be commonly accepted by the relevant scientific community.

The reference format we propose for the creation of the nomenclature, Vocabulary and the Metadata Schemas is the Nexus one (https://www.nexusformat.org/), suitably enriched with new entries consistent with it, if necessary.

NeXus is an international standard for the storage and exchange of neutron, x-ray, and muon Experiment data. The structure of NeXus files is extremely flexible, allowing the storage of both

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[6] H2020 Annotated Model Grant Agreement, article 27.1
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

simple data sets, such as a single data array and its axes, and highly complex data and their associated Metadata, such as Measurements on a multi-component Instrument or numerical simulations. NeXus is built on top of the container format HDF5, and adds domain-specific rules for organizing data within HDF5 files in addition to a dictionary of well-defined domain-specific field names. The documentation of the NeXus format can be found at the following link: https://manual.nexusformat.org/ref_doc.html

The Metadata Schemas to be implemented should be able to describe, with a standardized structure and standard parameters, Datasets obtained from various types of Experiments, with the objective of becoming a standard in a pre-established Metadata Model. A minimum set of mandatory and recommended parameters will be accompanied by a dictionary containing the largest set of Metadata that may be needed depending on the Experiment and the Instrumentation used, to be added as needed.

Providers and experts involved in NEP are invited to cooperate and to submit their suggestions, any Metadata Standards already in use for their Equipment and their ideas for new ones.

New professional figures, defined as Data Curators or Data Stewards, will be trained and will act as a reference point for the curation and management of data within the NEP project. They will be in charge of reviewing, enhancing, cleaning, or standardizing Metadata and the associated data, ensuring the FAIRness of the data.

4.4. Increase data re-use (through clarifying licences)

To allow for the widest possible reuse, all the Research Data underlying a scientific publication will be published using the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights as indicated by "The Guidelines to the Rules on Open Access to Scientific Publications and Open Access to Research Data in Horizon 2020" This will make it possible for others to mine, exploit and reproduce the data.

In accordance with the FAIR guidelines, the intent is that the Research Data generated within the infrastructure can be reusable even after the end of the project if allowed and supported by the project resources and the necessary infrastructures. The exact length of time the data will remain reusable will be very clear as the project progresses.

5. ALLOCATION OF RESOURCES

Costs for repository development, infrastructure and curation will be covered by EC funding within the timeframe of the project and imputed to a specific Work Package (WP16).

Furthermore CNR/IOM, the coordinator of the project, will sign an agreement with Area Science Park in order to host all data services and data infrastructures available to NEP within ORFEO, the AREA Science Park data center.

Resources for long term preservation have not yet been discussed, as this involves the general progress of the project in general and related projects in specific and will be addressed in further versions of NEP-DMP.

6. DATA SECURITY

Personal Data

NEP has adopted technical and organizational security measures for the processing of personal data, in accordance with the provisions of art. 32 of the GDPR. A dedicated agreement for the definition of intra-consortium rules for data treatments (Data Sharing Agreement) has been prepared and will be signed by all partners before starting the treatment. It defines the organizational and technical security measures that the project partners will adopt to guarantee the collection, processing and storage of the personal data of the Registered Users and the responsibilities of each Party. Each Party is an autonomous data controller for the procession of personal data, with reference to each Party's privacy policy and GDPR. The data controlling Party shall ensure a lawful data processing according to art. 6 GDPR, also for any transmission of the personal data, which is necessary for the full implementation, management and monitoring of the project.

The NEP partners processing personal Data abide to the minimality of Data retention and security by design principles of the GDPR through the adoption of the following measures:

- Logical access control: all personal data collected within the framework of the NEP project is contained in a Database infrastructure. The Database infrastructure is hosted on servers located in Italy. The access to the Database is allowed only to authorized staff of each Party, through an authentication procedure.
- Traceability: access to the Database is granted with a userID-password mechanism. A log file to trace accesses will be implemented.
- Encryption: the transmission of data to the project Databases makes use of encryption.
- Data partitioning: the data are split over multiple Databases, with personal data required to authenticate and authorise users separated from the rest.
- Backups: All systems are automatically backed up both on-site and off-site.
- Maintenance: the maintenance of the Database infrastructure will be periodically provided by the Data Controller eXact lab.
- Minimisation of the amount of personal Data: the personal data collected are exclusively those essential to the purpose of the project and to the provision of the service.

Each of the Parties involved in the processing of Data ensure that persons authorised to process the personal data have committed themselves to confidentiality or are under an appropriate statutory obligation of confidentiality. Data Controllers and Data Processors undertake to instruct any person acting under their authority who has access to Data.

Research Data

NEP offers all partners and all Registered Users NFFA Datashare (https://datashare.nffa.eu), a file share and collaboration platform hosted on Italian servers managed by the project partner eXact lab. Although its use is not mandatory, the Consortium recommends its use to partners, especially if the facilities offering transnational access are not equipped with a secure and efficient cloud storage and sharing system.

Registered Users can access the platform with the same credentials they use on the NFFA-Europe portal. This Instrument offers a secure tool for data storage and retrieval and gives the possibility to access, process and share scientific data, collaborating in real time with other team members.

Therefore, team members will not carry data with them (e.g. on laptops, USB sticks, or other external media).

All data centers where project data are stored carry sufficient certifications. All project web services are addressed via secure Hypertext Transfer Protocol (http).

The archive will be backed up both on-site and off-site to protect the data against disasters. The archive is protected against loss or theft. An access control policy is implemented to provide physical access to the archive.

7. ETHICAL ASPECTS

There are no ethical or legal issues foreseen for any of the generated Research Data.

ANNEX 1: GLOSSARY

The following glossary intends to standardize the terms used in this and in future documents produced in the context of the NEP project. Its content is constantly growing, so it will be updated in subsequent versions of this NEP-DMP.

Access Provider: a beneficiary or linked third party that is in charge of providing access to one or more research infrastructures or Installations, or part of them. (from NEP Grant Agreement)

Additional Data: any other data that is not Publication Data but is directly related to it as specified in the Data Management Plan (for instance curated data not directly attributable to a publication, or related Raw Data).

Analysed Data: Identifiable Research Data which is a result of Raw Data processing obtained with the use of Data Analysis Software, typically after the end of an Experiment. It is typically a data file but it can be potentially a data stream, or other form of data relevant in a particular data management context. Analysed Data is stored in a Data Repository which may be the same as Raw Data. Analysed Data can be a part of Dataset which may bear some semantics of what the data is and the origin/provenance of it. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Data Analysis Software: Software used for analysis of Raw Data or previously Analysed Data and yielding Analysed Data as an output. If software is used for simulation (computer Experiment), is it considered an Instrument and should be described as such. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Data Analysis: The identifiable action of processing Raw or Analysed Data. The analysis may be performed using Data Analysis Software and may be combined in chains or workflows. The Data Analysis includes data processing and data interpretation.

Data Curator: Person tasked with reviewing, enhancing, cleaning, or standardizing Metadata and the associated data submitted for storage, use, and maintenance within a data centre or repository (ref. DataCite). A Data Curator is an expert on the management and oversight of an organization's entire data to ensure compliance with policy and/or regulatory obligations for long term preservation and to provide higher-level users with high quality data that is easily accessible in a consistent manner. A Data Curator could collect and publish data using domain-specific standard formats, ensuring the FAIRness of the data. (adapted from EOSC https://op.europa.eu/en/publication-detail/-/publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1)

Data Management Plan (DMP): a formal document that outlines what to do with data during and after a research project. It describes the type of data that will be used for a research, how this data is collected, organized, and stored, and in which formats. It details how data will be accessible and documented for sharing and reuse during and after the project is finished. (from https://researchdatamanagement.harvard.edu/data-management-plans)

Data Policy: An identifiable expression of rules and regulations about data management in Data Repository (that includes data ingestion) and about data sharing within and beyond Institution or

Laboratory. Data Policy may be applicable to Research Data or/and Datasets. Data Repositories may have different Data Policies for different types of Datasets. NFFA Portal (or its back-end Data Repository) may have one or more Data Policies, too. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Data Repository: An operational information system for managing and organizing digital resources, particularly suitable for Datasets or Publication Data which are not likely to be altered again. The Data Repository contains Metadata about the Datasets, as well as given rules for data access. Data Repository may be associated with a certain Institution or a group of them, or a certain Instrument or a group of them, or may be run by a third-party. Data Repository may or may not be directly used by Research Users.

Data Research Infrastructure Support Professional: ICT expert who manages and operates research infrastructures and the necessary services for the storage, preservation and processing of Research Data (from https://op.europa.eu/en/publication-detail/-/publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1).

Data Scientist/Data Analyst: expert on data processing, not necessarily from a specific discipline, who is capable of evaluating data quality, extracting relevant knowledge from data and representing such knowledge. A Data Scientist or Data Analyst could be an expert who develops a general-purpose machine learning algorithm that could efficiently run on the EOSC federated research infrastructures that are consuming data from EOSC services. (from https://op.europa.eu/en/publication-detail/-/publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1).

Data Steward: expert on the preparation and treatment of data including data selection, storage, preservation, annotation provenance and other Metadata maintenance, and dissemination. Data librarians are professional library staff who are experts on RDM, using Research Data as a resource or supporting researchers dealing with data (description, archiving and dissemination). Other closely related roles will also be considered under this category. A Data Steward could be an expert who validates, recodes, trims or applies any other action on each source Dataset to guarantee that they can be properly used and integrated according to domain-specific standard formats. (from https://op.europa.eu/en/publication-detail/-/publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1).

Database: organised collection of data allowing storage and retrieval of data by means of a computer system.

Dataset: A collection of scientifically related Research Data which can be Raw Data , Analysed Data, or other Datasets, each described by their related Metadata. The components of a Dataset remain individually identifiable within the Dataset.

Electronic Laboratory Notebook (ELN): An Electronic Laboratory Notebook is a computer program designed to replace paper Laboratory notebooks. It is used by Instruments Scientist and Research Users to document research, procedures, workflow performed during an Experiment and typically related to a particular Instrument. (adapted from https://en.wikipedia.org/wiki/Electronic_lab_notebook).

EOSC - European Open Science Cloud: European Commission initiative aiming at developing an infrastructure providing its users with services promoting open science practices.

Equipment: any scientific tool, device or machine used in the course of an Experiment.

Experiment: Identifiable activity with a clear start time and finish time conducted by Research User who uses one or more Instruments to investigate or produce one or more Samples and collects Raw Data about it. Experiment consists of (or includes – in case of Sample Preparation) one or a series of Measurements. Experiments can be a computer simulation (computational Experiment), or a combination of it with physical Measurements. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

External User: person who hasn't registered to the NEP Portal, so has not a username/password.

FAIR Data: data which meet the FAIR principles of findability, accessibility, interoperability, and reusability. The FAIR principles emphasize machine-actionability, i.e. the capacity of computational systems to find, access, interoperate, and reuse data with none or minimal human intervention.

Installation: a part or a service of a research infrastructure that could be used independently from the rest. A research infrastructure consists of one or more Installations. (from NEP Grant Agreement)

Institution: The hierarchical entity (facility/organization), or a division of it, which hosts one or more Laboratories with one or more Instruments for Research Users. For computer simulation, Institution may include hardware or/and software platform or/and services that allow to order and manage computational Experiments (so that the software platform serves the purpose of managing software modules that can be considered virtual Instruments).

Instrument: identifiable Equipment that allows performing a Measurement , and generates Raw Data during an Experiment.. Instrument is located in a Laboratory hosted by an Institution and used by one or more Instrument Scientists or Research Users. Instrument can be a software for computer simulation (a software module or/and a particular configuration of it).

Instrument Datasheet: technical specification of the Instrument, organised according to a Metadata Schema.

Instrument Scientist: A person, or a group of them, who manage a particular Instrument, or a set of them (ref. NFFA D11.2). This is the person who usually performs the Measurement or Experiment and possibly the Data Analysis. (from https://doi.org/10.1007/978-3-319-57135-5_18)

Laboratory: place where the Instrument is located and the Measurement is performed (could also be virtual).

Laboratory Information Management System: A Laboratory Information Management System (or LIMS) is a software-based solution with features supporting Laboratory's operations, including - but not limited to - workflow and data tracking support, Sample management, Instrument integration (adapted from https://en.wikipedia.org/wiki/Laboratory_information_management_system).

License: official permission or permit to do, use, or own something (as well as the document of that permission or permit)

Measurement: The act of generating Raw Data for a Sample or a set of Samples during Experiment using a particular Instrument under constant or varying controlled conditions, depending on the particular research context. Measurement is specific to Instrument: a research on the same Sample using a different Instrument implies a separate Measurement. Measurement

can be a computer simulation, e.g. a particular run of a program using a particular model, configuration or input(s).

Measurement Technique: a technique or technology corresponding to the method used to acquire Raw Data with a specific Instrument.

Metadata: A set of descriptive, structural and contextual information describing the context, content and structure of Research Data and/or Datasets and their management through time. It describes information pertaining to research projects, including (but not limited to) the context of the Experiment, the Research Users, the Data Analysis methods, and other logistical information. Metadata may include descriptions of how data and files are named, physically structured, and stored.

Metadata Document: the actual document, written in JSON or XML format, containing the Metadata, following a Metadata Schema.

Metadata Schema: a logical plan showing the relationships between Metadata, normally through establishing rules for the use and management of Metadata specifically as regards the semantics, the syntax and the cardinality (mandatory, optional, recommended) of values. (from ISO 23081.1 s3 Terms and Definitions). It can be written, e.g., in XSD (XML Schema Definition) or in JSON format, and may be implemented as machine actionable through consistent data entries and the inclusion of access points using controlled vocabularies. A Metadata Schema that gains wide acceptance from a reference user community and has been formally approved by Standards organizations, becomes a Metadata Standard.

Metadata Standard: a Metadata Schema that fulfills the needs of a scientific community, has obtained consensus, and has been ratified as a standard by some official bodies, such as the National Institute of Standards and Technology (NIST), the Dublin Core Metadata Initiative or the NeXus Data Format. A Metadata Standard describes the information and the terms needed to properly define specific data and it favors interoperability. In NeXus Data Format, a Metadata Standard is called "Application Definition".

NEP Portal: An IT service for nanoscience data discovery and sharing; the service may include one or more than one of: Graphical User Interface; Application Programming Interface; data ingestion and data publishing feeds; data sharing, data annotation and Data Analysis components. NEP Portal is used by Research Users and is underpinned by Data Repositories in participating Facilities. Research Users may be registered with NEP Portal. Data Repositories of participant organizations may interact and interoperate with NEP Portal – both technically and organizationally, e.g. by having Service Level Agreements for data supply in NEP Portal (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Ontology: A formal representation of knowledge, typically in a graph or network structure, with both human and machine-readable definitions, with logical relationships (axioms) between the terms, which together define a domain of knowledge.

Open Access: Open Access (OA) refers to the practice of providing online access to scientific information that is free of charge to the end-user and reusable. 'Scientific' refers to all academic disciplines. In the context of research and innovation, 'scientific information' can mean: peer-reviewed scientific research articles (published in scholarly journals), or Research Data (data underlying publications, curated data and/or Raw Data). Open Access is granted by providing a suitable open License such as Creative Commons Licences (CC BY or CC0).

Open Format: open standard which specifies a file format. An Open Format is a file format for storing digital data, defined by a published specification, usually maintained by a standards organization, and which can be used and implemented by anyone. Open Formats are also called free file formats if they are not encumbered by any copyrights, patents, trademarks or other restrictions so that anyone may use the format at no monetary cost for any desired purpose.

Persistent Identifier: A Persistent Identifier (or PID) is a long-lasting, actionable reference to a Research Digital Object.

Proposal: An application of one (usually the Team Leader) or more Registered Users to get User Access in order to perform one or more activities, in one or more Laboratories using one or more Instruments for taking one or more Measurements of one or more Samples during one or more Experiments. Instrument, Measurement, Experiment and Sample can refer to computer simulation environments.

Publication Data: Research Data intended to appear in a scientific publication.

Raw Data: Research Data which is the primary output of a Measurement, generated by a particular Instrument and collected during an Experiment by a Research User or Instrument Scientist, before any subsequent processing. Raw Data is typically in the form of a data file but it can be potentially a data stream, or other form of data relevant in a particular data management context. Raw Data is stored in a Data Repository which may be the same as Analysed Data. Raw Data can be a result of a computer Experiment (simulation). Raw Data can be a part of a Dataset. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Registered User: person registered as user of the NEP Portal.

Research Data: data examined and considered as a basis for reasoning, discussion, or calculation in a research context. Examples of Research Data include statistics, results of Experiments, Measurements, observations resulting from fieldwork, survey results, recordings and images. Raw Data and Analysed Data are particular types of Research Data. (adapted from https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf)

Research Digital Object: any computer processable or computer processed object that results from research activity, including, but not limited to, Dataset, Research Software, Laboratory workflows and notebooks, data services, publications. (adapted from https://doi.org/10.2777/1524)

Research Software Engineer: ICT expert who designs, implements, maintains and/or integrates services and software in the EOSC ecosystem to enable FAIR and open science, ensuring the fulfilment of software quality, reproducibility and sustainability. A Research Software Engineer could be designing, building and maintaining software that is compiled and installed by someone else. Research Software Engineers may require other ICT skills of different roles such as ICT Managers, Development Operations Engineers or Database Programmers. (from https://op.europa.eu/en/publication-detail/-/publication/af7f7807-6ce1-11eb-aeb5-01aa75ed71a1).

Research Software: software that is used to generate, process, analyse or access Research Data. If software is used for simulation (computer Experiment), is it considered an Instrument and should be described as such. (adapted from https://doi.org/10.3233/DS-190026).

Research User: A person, a group of them, or an Institution (organization) who, after the approval of a Proposal, conducts Experiment on one or more Laboratories using one or more Instruments in order to collect and analyze Research Data, or is interested in data collected or analyzed by other Research Users on the same or other Laboratories. Research User may be assigned with a role, e.g. Team Leader and Team Members. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Sample: Identifiable piece of material with distinctive properties (structural, chemical, dimensional and others), composed by one or more Sample Component(s), exposed to Instrument during Measurement within a defined period of time. Sample may stand for a model or configuration or data input (or any combination of these) in computer simulations. (adapted from https://doi.org/10.1007/978-3-319-57135-5_18)

Sample Component Production: production of a Sample Component in controlled conditions, performed by a commercial enterprise, a Research User or someone else, typically before the User Access begins.

Sample Component: Identifiable piece of material with distinctive properties (structural, chemical, dimensional and others), used in Sample Preparation to produce a Sample.

Sample Preparation: preliminary actions (physical changes or chemical reactions) typically carried out by a Research User or Instrument Scientist on (or between) one (or more) Sample Component(s) to produce a Sample, in order to perform a Measurement. May be done before the User Access begins.

Site: specific geographical location where one or more Institutions with one or more Laboratories are located.

Team Leader (also known as Principal Investigator): Research User officially designated as head of Proposal team (ref. DataCite ProjectLeader)

Team Member: Research User on the membership list of a designated Proposal (ref. DataCite)

TLNet Node: person representing one or more Institutions providing Transnational Access within NEP.

User Access: research activity performed according to a Proposal after its approval and carried out within a defined period of time. The User Access may include, all or in part, the Data Analysis following the Experiment.

Vocabulary: On the Semantic Web, vocabularies define the concepts and relationships (also referred to as "terms") used to describe and represent an area of concern. Vocabulary is used to classify the terms that can be used in a particular application, characterize possible relationships, and define possible constraints on using those terms. (from https://www.w3.org/standards/semanticweb/Ontology)

Work Package Leader: person in charge of coordinating all the activities within a NEP Work Package

ANNEX 2: RESEARCH DATA MANAGEMENT POLICY (DRAFT)

WILL SOON REPLACE THE ONE AT https://www.nffa.eu/apply/data-policy/

The NFFA-Europe consortium and the European Commission strongly believe in the concepts of Open Science, and in the benefits arising from allowing reusing data at a larger scale.

Open Access to Research Data refers to the practice of providing online access to Research Data that is free to the end-user and reusable. NFFA-Europe participates in the Open Research Data Pilot (ORD Pilot) action on Open Access to Research Data.

The ORD Pilot project aims to improve and maximize access to and reuse of Research Data generated by Horizon 2020 projects and takes into account the need to balance the openness and protection of scientific information, commercialization and Intellectual Property Rights (IPR), privacy concerns, security as well as issues related to data management and retention.[7]

The beneficiaries of NFFA-Europe services (Research Users) must manage the digital Research Data generated in line with the FAIR[8] principles and take measures to make it possible for third parties to access, mine, exploit, reproduce and disseminate — free of charge for any user — the data, including associated Metadata, needed to validate the results presented in scientific publications as soon as possible[9].

The NFFA-Europe facilities will be provided with an innovative common infrastructure for the data collected by NFFA-Europe Research Users, including services for secure storage and retrieval, data sharing, data management, Metadata visualization and exploitation, Open Access to data. These services aim to increase the scientific value of the data collected by making them available to a wider community for further analysis and fostering new collaborations between scientific groups.

NFFA-Europe defines a Data Policy in order to:

1. Ensure the continuous availability of data of lasting value for research, teaching, and for wider exploitation by individuals, government, business, or other organizations;
2. Support the integrity, transparency and openness of the research;
3. Help in the formal publication of Datasets, as well as enable usage tracking of data through citation and data Licenses.

The present document follows the [Guidelines on Open Access to Scientific Publications and Research Data in Horizon 2020](). NFFA-Europe contributes to the implementation of these Guidelines with respect to Raw Data collected by investigators in their Experiments carried out at NFFA-Europe facilities.

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[7] Horizon 2020 online manual: Data Management https://ec.europa.eu/research/participants/docs/h2020-funding-guide/cross-cutting-issues/open-access-data-management/data-management_en.htm

[8] The FAIR Guiding Principles for scientific data management and stewardship https://dx.doi.org/10.1038/sdata.2016.18

[9] H2020 Annotated Model Grant Agreement, article 29.3 https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

1. General principles

1.1. The present data management policy pertains to the ownership of, the curation of, and access to Experimental data and Metadata collected during User Access activities and Joint Activities within the NFFA-Europe Infrastructure.

1.2. Acceptance of this policy is a condition for the award of NFFA-Europe Transnational Access services.

1.3. Research Users must not attempt to access, exploit, or distribute Research Data or Metadata unless they are entitled to do so under the terms of this policy.

1.4. Deliberate infringements of the policy may lead to denial access to Raw Data or Metadata, and/or denial of future access to the NFFA-Europe infrastructure.

1.5. All data and Metadata this document refers to, are Research Data. If Research Data involve personal and sensitive data they will be subject to the data protection legislation of the Countries in which the data and Metadata are stored.

2. Research Data and associated Metadata

2.1. Treatment of Research Data needed to validate the results presented in scientific publications and associated Metadata

    2.1.1. A standard set of Metadata related to each approved Proposal will be acquired centrally through the Proposal submission form on the NFFA-Europe portal and made available at different stages.

    2.1.2. Research Users must deposit Research Data and Metadata in a repository in compliance with EOSC requirements as soon as possible and at the latest on publication of the peer-reviewed scientific article relating to these data; an overview of compliant subject-specific repositories can be found at Re3data, but general open repositories such as Zenodo provide a good alternative;

    2.1.3. Raw Data stored in facilities that are part of the NFFA-Europe infrastructure are under the custody of these facilities, while NFFA-Europe is the custodian of all of associated Metadata stored on the NFFA-Europe Services according to the NFFA Metadata model.

    2.1.4. NFFA-Europe aims for a long-term period of ten years to maintain Metadata within the NFFA-Europe Services. The actual retention period will depend on the type and volume of data and the economic consequences associated with long-term data storage. Thus, NFFA-Europe reserves the right to reduce the retention periods or Datasets in consultation with the respective communities of high data rate Instruments.

    2.1.5. Metadata of deposited data must provide information at least about the following: Datasets (description, date of deposit, author(s) Persistent Identifier); Horizon 2020 funding; grant project name, acronym and number (Nanoscience Foundries and Fine Analysis - Europe|PILOT, NEP, 101007417); ID Proposal number; licensing terms. Where applicable, the Metadata must include Persistent Identifiers for related publications and other research outputs.

2.2. Access to Research Data and Metadata

    2.2.1. Access to Metadata of approved Proposals is foreseen to be via a searchable online Metadata catalogue: the Metastore. Metadata modification and requests of Dataset download will be logged.

2.2.2. Access to the NFFA-Europe on-line Metadata catalogue will be available worldwide. This includes searching for publicly available Metadata and Datasets. For modification of Metadata the data user must be registered with the NFFA portal.

2.2.3. Research Users must ensure Open Access — via the repository — to the deposited data as soon as possible and at the latest on publication of the peer-reviewed scientific article relating to the data, under the latest available version of the Creative Commons Attribution International Public License (CC BY) or Creative Commons Public Domain Dedication (CC 0) or a licence with equivalent rights;

2.2.4. Research Users may protect their results opting out from the publication of their Research Data — for an appropriate period and with appropriate territorial coverage — if[10] the results can reasonably be expected to be commercially or industrially exploited;

2.2.5. Research Users may protect their results opting out from the publication of their Research Data — for an appropriate period and with appropriate territorial coverage — if[11] providing Open Access would be contrary to any other constraints, in particular the EU competitive interests or the beneficiary's obligations under this Agreement;

2.2.6. if Open Access is not provided (to some or all data), this must be justified. The following version of this document will specify the detailed procedure and limitations of the opt out.;

2.2.7. Metadata stored in the Metastore will be accessed at any moment by privileged users (who signed non-disclosure declaration), e.g. for administrative and curation purposes.

2.2.8. The Team Leader has the right to transfer part or the totality of his/her rights at any moment to another registered person.

2.2.9. The Team Leader and all team members have the right to create and distribute copies of the Research Data.

3. Good practice for Metadata captures and results storage

3.1. Research Users are encouraged to store and backup all their Research Data in secure places, such as the NFFA Datashare platform made available by the NFFA-Europe infrastructure.

3.2. Research Users are encouraged to ensure that the Experiments Metadata are as complete as possible, as this will enhance the possibilities for everybody to search for, retrieve and interpret the data in the long term.

3.3. Researchers who aim to carry out analyses of Raw Data and Metadata which are openly accessible are invited to contact the original Team Leader or his/her designate and suggest a collaboration, if appropriate. Researchers must acknowledge the source of the data and cite its unique identifier as well as any publications linked to the same Raw Data.

3.4. Team Leaders and team members who carry out analyses of Raw Data are encouraged to link the results of these analyses to the Raw Data and Metadata. Furthermore, they are encouraged to make such results openly accessible.

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[10] H2020 Annotated Model Grant Agreement, article 27.1
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf
[11] H2020 Annotated Model Grant Agreement, article 27.1
https://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/amga/h2020-amga_en.pdf

3.5. Team Leaders and team members who carry out analyses are encouraged to publish well defined Datasets, that can include both raw and analyzed Datasets, associating Persistent Identifiers with them, in order to make data identifiable and citable.

ANNEX 3: DATA SHARING AGREEMENT (DRAFT)

Last edited: 09/09/2021

Contractors

1. Consiglio Nazionale delle Ricerche (CNR), Piazzale Aldo Moro 7, Rome 00185, Italy;
2. Commissariat a l'Energie Atomique et aux Energies Alternatives (CEA), Rue Leblanc 25, Paris 75015, France;
3. Centre National De La Recherche Scientifique (CNRS), Rue Michel Ange 3, Paris 75794, France;
4. Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC), Calle Serrano 117, Madrid 28006, Spain;
5. Deutsches Elektronen-Synchrotron DESY (DESY), Notkestrasse 85, Hamburg 22607, Germany;
6. Ecole Polytechnique Federale de Lausanne (EPFL), Batiment CE 3316 Station 1, Lausanne 1015, Switzerland;
7. European Synchrotron Radiation Facility (ESRF), 71 Avenue Des Martyrs, Grenoble 38000, France;
8. eXact Lab Srl (EXACT LAB), Via Beirut 2-4, Trieste 34151, Italy;
9. Idryma Technologias Kai Erevnas (FORTH), N Plastira Str. 100, Irakleio 70013, Greece;
10. Forschungszentrum Jülich GmbH (FZJ), Wilhelm Johnen Strasse, Jülich 52428, Germany;
11. Fundacio Institut Catala de Nanociencia i Nanotecnologia (ICN2), Campus de la UAB Edifici Q ICN2, Bellaterra (Barcelona) 08193, Spain;
12. Laboratorio Iberico Internacional De Nanotecnologia (LIN INL), Avenida Mestre Jose Veiga Congredados, Braga 4715 330, Portugal
13. Joint Research Centre (JRC), Rue de la Loi 200, Brussels 1049, Belgium
14. Karlsruher Institut für Technologie (KIT), Kaiserstrasse 12, Karlsruhe 76131, Germany;
15. Lunds Universitet (ULUND), Paradisgatan 5c, Lund 22100, Sweden;
16. Promoscience Srl (Promoscience), Località Padriciano 99, Trieste 34012, Italy;
17. Paul Scherrer Institut (PSI), Forschungstrasse 111, Villigen PSI 5232, Switzerland;
18. Technische Universität Graz (TU GRAZ), Rechbauerstrasse 12, Graz 8010, Austria;
19. Technische Universität München (TUM), Arcisstraße 21, München 80333, Germany;
20. Universidad Autonoma de Barcelona (UAB), Calle Campus Universitario Sn Cerdanyola V, Cerdanyola Del Valles 08290, Spain;
21. Università degli Studi di Milano (UMIL), Via Festa del Perdono 7, Milano 20122, Italy
22. Univerza V Novi Gorici (UNG), Vipavska Cesta 13 Rozna Dolina, Nova Gorica 5000, Slovenia;

hereinafter, jointly or individually, referred to as "Parties" or "Party" related to the project "NFFA-Europe PILOT" (NEP) receiving funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 101007417, hereinafter also referred to as "Project".

The Parties referred to above have agreed to enter into the Agreement under the terms and conditions below.

Background

A. This Agreement is intended to ensure the existence of adequate agreements relating to personal Data transferred or shared between the members of the NFFA-Europe PILOT Consortium.

B. The Project in its aims and methodologies takes into account the principles of minimization and limitation of the use of personal Data according to the principles of privacy by design stated in art. 25 par 1 of the General Data Protection Regulation (GDPR) [principle of minimization of treatment].

C. It has been agreed that each of the Parties is a joint Data Controller in relation to the Data being transferred or shared under this Agreement, pursuant to art. 26 of the GDPR according to the conditions and terms set out in this Agreement and its Annexes [joint controllers: if two or more controllers jointly determine the purposes and means of processing, they shall be joint controllers].

D. The Parties wish to record their commitment to sharing arrangement under the terms of this Agreement.

Agreement

1. Definitions and interpretation

In this Agreement:

- *Data Protection Legislation* means, as long as the GDPR applies to the Parties, the European General Data Protection Regulation 2016 (EU) 2016/679) (the GDPR) and any national implementing laws, regulations and secondary legislation; any other laws and regulations relating to the processing of personal Data and privacy which apply to a Party; and, if applicable, the guidance and codes of practice issued by any competent Data protection supervisory authority; or in the case of a Party being an intergovernmental institution, any rule, regulation or policy issued by and applicable to such Party's processing of personal Data, and further provided that any reference to the GDPR or national legislation on Data protection in relation to such Party is simply for convenience and does not imply a waiver of any privileges and immunities applicable to such Party.
- *Data* means personal data (see article 4.1 of GDPR) transferred or shared under this Agreement, being the type of Data to be shared as detailed in the Annex Part C.
- *Data Subject* means an identified or identifiable natural person; an identifiable natural person is one who can be identified, directly or indirectly.
- *Data Controller* is defined in article 4.7 of GDPR.
- *Data Processor* is defined in article 4.8 of GDPR.
- *Purpose* means the activity to be completed by Parties as described in the Annex Part C.

2. Purpose of sharing

2.1. The Parties agree to share the Data to achieve the Purpose, and only for the Purpose.

3. Third parties involved in the sharing of the Data

3.1. Third parties and subcontractors, in order to access the Data must be appointed as Data Processors by at least one of the Data Controllers and under the conditions set

by GDPR. The Data Processor shall not process the Data except on instructions from the Controller (article 29 of GDPR).

3.2. Third Parties with access to Data, including Linked Third Parties and Third Parties providing resources against payment (TPAP), must be appointed as Data Processor by the Party to which they refer.

3.3. In the case of a subcontractor that will have access to the Data, the contracting Party will be in charge of mandating the subcontractor as Data Processor.

3.4. Access Review Panel (ARP) members are individually appointed as Data Processors by Consiglio Nazionale delle Ricerche (Project Coordinator).

4. Data items to be shared

4.1. The description of the Data in the Annex Part C gives a detailed explanation of the Data to be shared.

5. Basis for sharing of the Data

5.1. Each of the Parties involved in the processing of Data, Data Controllers and Data Processors, expressly commits to take all the necessary and appropriate technical and organizational measures to ensure adequate protection of Data in the Project and to ensure the security of the Data and to operate according to the principles of privacy by design pursuant to art. 25 par. 1 of the General Data Protection Regulation (GDPR), taking into account the state of the art and the implementation costs, as well as the nature, scope, context and purposes of the treatment, as well as the risks having different probabilities and severities for the rights and freedoms of the Data subjects constituted from processing, in order to guarantee the security of the Data and prevent such data from being altered, lost, processed or accessed without authorisation. In any case, any Data received pursuant to this Agreement shall be deleted and destroyed when it is no longer needed for the designated Purpose.

5.2. Each of the Parties involved in the processing of Data ensure that persons authorised to process the Data have committed themselves to confidentiality or are under an appropriate statutory obligation of confidentiality. Data Controllers and Data Processors undertake to instruct any person acting under their authority who has access to Data. Data Controllers and Data Processors shall be liable for the actions of those persons acting under their authority.

5.3. Each of the Parties involved in the processing of Data has obtained the explicit consent of the Data Subjects to manage the Data according to the GDPR.

5.4. Data Subjects are given the right to withdraw their consent at any time, and without prejudice or adverse effect as long as they have not yet made use of the service. If a consent withdrawal is notified, all the Data pertaining to the Data Subject who revoked the consent will be removed promptly by the Data Controller, as far as processing is not required and unless any applicable law requires the storage of such Data. The contact point for the management of the consent withdrawal will notify the other Parties of the receipt of the request from the Data Subject, without delay, requesting the cancellation of all the Data referring to her/him within 30 days. As soon as the deletion has been confirmed by all the Parties, the contact point for the management of the consent withdrawal will notify the Data Subject of the completion of the Data deletion.

5.5. Each one of the Parties involved in the processing of Data ensures that it processes the Data on a valid legal ground embedded in Data Protection Legislation.

6. Access and individual rights

6.1. It is recognized that Data Subjects have rights under the Data Protection Legislation. If at any time a Data Subject shall seek to exercise any of these rights the Parties involved in the processing of personal Data shall respect the rights of the Data Subject and take action as required.

6.2. Each Party undertakes to use its best efforts to inform the other Parties through the representatives described in Annex Part B and respond to the Data Subject's request as soon as possible and at the very least within the deadlines specified in the Data Protection Legislation in force for that partner.

7. Information governance

7.1. Parties involved in the processing of personal Data have carefully considered the Data minimization principle, e.g., that they will process only the Data that is adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed. Therefore, the disclosing Party, notwithstanding any other provision of this Agreement, shall transfer only that Data which is required for the Purpose.

7.2. Parties involved in the processing of Data have to ensure shared Data accuracy, validity, reliability, timeliness, relevance and completeness.

7.3. Each Party undertakes not to keep the Data beyond the agreed periods of retention for the Data specified in Annex Part D.

7.4. Each Party undertakes to implement the agreed technical and organizational security arrangements relating to the transmission and storage of the Data as described in Annex Part A.

7.5. Any requests from Data Subjects for exercising their rights under the Data Protection Legislation (including freedom of information acts) will be dealt with through the representatives of the Parties involved in the processing of personal Data described in Annex Part B.

7.6. None of the Parties not involved in the processing of personal Data will have the right to consult the Data.

8. Co-operation

8.1. Each Party agrees to provide the other with all information necessary to ensure and demonstrate compliance with the obligations laid down under this Agreement, the Data Protection Legislation and for the completion of any reasonable audit, inspection or verification to ensure that the rights of Data Subjects are being respected.

9. Transfer of Data between Parties

9.1. Arrangements relating to the secure transfer of the Data between the Parties are detailed in Annex Part C.

10. Transfer of Data to a third country

10.1. The Parties do not have the right to transfer personal data under this Agreement outside of the European Economic Area (EEA) or to an international organisation governed by international law, except where this is in compliance with Chapter V of the GDPR. This includes making the personal data available, granting access to it and disseminating it further to another third country.

10.2. Adequate security protection levels for a third country, a territory or specific sectors in a third country may be decided by the European Commission. In the absence of such decision, the Parties are only permitted to transfer personal data to a country outside the EEA where there are appropriate safeguards, in compliance with Articles

46-47 and 49 of the GDPR, for example standard contractual clauses of the European Commission. The Parties are to inform each other if such transfer mechanisms are in place and of the legal grounds for the transfer.

11.   Data breach

11.1.   Each Party involved in the processing of personal Data shall immediately notify and contact the others through the representatives described in Annex Part B if it becomes aware, or suspects, the existence of any breach of security or incident relating to the Data where the security leading to the accidental or unlawful destruction, loss, alteration, unauthorized disclosure of, or access to, personal Data transmitted, stored or otherwise processed. Any Party that gives such notification shall provide the other Parties as soon as reasonably possible with information regarding such breach as may be reasonably requested by any of the other Parties.

11.2.   In the case of a personal data breach, the Party involved shall without undue delay and, where feasible, not later than 72 hours after having become aware of it, notify the personal data breach to the competent Data Protection Authority/ies and the Data subjects, pursuant to Data Protection Legislation.

12.   Term and termination

12.1.   This Agreement will come into force on the date of signature by all Parties and will remain in force until the termination of the Project.

12.2.   Each Party shall have the right to immediately terminate this Agreement if any other Party is in material breach of its terms and conditions and, after receiving written notice identifying such material breach in reasonable detail, fails to remedy the breach within a period of 30 days.

13.   Liability

13.1.   In the event of a claim by a Data Subject, the Parties that commit a breach under this Agreement undertake to hold completely harmless, defend and indemnify the other Parties without delay.

13.2.   Notwithstanding anything to the contrary, neither Party arising out of a breach of this Agreement or otherwise in connection with this Agreement shall be liable to the other Party for indirect or consequential damages incurred by the other Party, nor for any financial and/or commercial loss, loss of profit, loss of use or loss of order. Each Party shall be responsible and liable for its own acts and there shall be no joint and several liability between the Parties.

14.   General

14.1.   This Agreement may only be varied with the written approval of all Parties.

14.2.   For the purposes of this Agreement the representatives of each Party are detailed in Annex Part B.

14.3.   This Agreement represents the entire understanding of the Parties relating to necessary legal protections arising out of their Data controller relationship under Data Protection Legislation.

14.4.   This Agreement is governed by the applicable EU Legislation, supplemented, if necessary, by Regulation (EU) 2018/1725 of the European Parliament and of the Council.

14.5.   The Parties shall endeavour to settle their disputes amicably. Any dispute, controversy or claim arising out of or in connection with this Consortium Agreement, which cannot be solved amicably, within 60 days, shall be submitted to mediation in accordance with the WIPO Mediation Rules. The place of mediation shall be Brussels unless otherwise agreed upon. The language to be used in the mediation

shall be English unless otherwise agreed. If, and to the extent that, any such dispute, controversy or claim has not been settled pursuant to the mediation within 60 calendar days of the commencement of the mediation, the courts of Brussels shall have exclusive jurisdiction.

Annex A

Security of processing

The following Parties will be involved in the processing of Data for what concerns the evaluation of the technical feasibility of the submitted proposals and the provision of Transnational and Virtual Access services to registered users (Data Subjects) at its sites: CNR, CEA, CNRS, CSIC, DESY, EPFL, ESRF, FORTH, FZJ, ICN2, LIN INL, JRC, KIT, ULUND, PSI, TU GRAZ, UAB, UMIL, UNG.

These Parties will be enabled to perform the aforementioned processing subject to the informed consent given by the Data Subject who submits a research proposal to obtain access to the infrastructure on the NFFA-Europe website. In the event that a submitted proposal requiring Transnational Access is accepted, the Data provided by the user will be shared exclusively with the assigned NFFA-Europe site/sites, to arrange the access and to proceed with the reimbursement practices.

The NFFA-Europe PILOT partner Promoscience Srl is responsible for the NFFA-Europe website and the database that guarantees its functionality.

The NFFA-Europe PILOT partner eXact Lab Srl is responsible for the operation of the NFFA-Europe authentication/authorisation services, of the associated databases and all applications and backup thereof.

The NFFA-Europe PILOT partner Technische Universität München (TUM) will neither collect nor process personal Data.

The NFFA-Europe PILOT partners processing personal Data abide to the minimality of Data retention and security by design principles of the GDPR through the adoption of the following measures:

- Logical access control: all personal data collected within the framework of the NFFA-Europe PILOT project is contained in a database infrastructure. The database infrastructure is hosted on servers located in Italy. The access to the database is allowed only to authorized staff of each Party, through an authentication procedure.
- Traceability: access to database is granted with a userID-password mechanism. A log file to trace accesses will be implemented.
- Encryption: the transmission of data to the project databases makes use of encryption.
- Data partitioning: the data are split over multiple databases, with personal data required to authenticate and authorise users separated from the rest.
- Backups: All systems are automatically backed up both on-site and off-site.
- Maintenance: the maintenance of the database infrastructure will be periodically provided by eXact lab.
- Minimisation of the amount of personal Data: the personal data collected are exclusively those essential to the purpose of the project and to the provision of the service (see Annex – part C).

The Parties involved in the processing of personal Data ensure that anyone acting on their behalf does not process any of the Data unless following instructions from them unless they are required to do so under Data Protection Legislation.

Annex B

Points of contact

Point of contact on behalf of the whole group of Parties is the CNR-IOM Director, who can be reached at protocollo.iom@pec.cnr.it.

partner	address	Point of contact for the management of personal Data
Consiglio Nazionale delle Ricerche (CNR)	Piazzale Aldo Moro 7, Rome 00185, Italy	CNR-IOM Director protocollo.iom@pec.cnr.it
Commissariat a l'Energie Atomique et aux Energies Alternatives (CEA)	Rue Leblanc 25, Paris 75015, France	
Centre National De La Recherche Scientifique (CNRS)	Rue Michel Ange 3, Paris 75794, France	Gaëlle Bujan dpd.demandes@cnrs.fr
Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC)	Calle Serrano 117, Madrid 28006, Spain	
Stiftung Deutsches Elektronen-Synchrotron DESY (DESY)	Notkestrasse 85, Hamburg 22607, Germany	Thomas F. Keller thomas.keller@desy.de
Ecole Polytechnique Federale de Lausanne (EPFL)	Batiment CE 3316 Station 1, Lausanne 1015, Switzerland	
European Synchrotron Radiation Facility (ESRF)	71 Avenue Des Martyrs, Grenoble 38000, France	
eXact Lab Srl (EXACT LAB)	Via Beirut 2-4, Trieste 34151, Italy	Giuseppe Piero Brandino giuseppe.brandino@exact-lab.it
Idryma Technologias Kai Erevnas (FORTH)	N Plastira Str. 100, Irakleio 70013, Greece	
Forschungszentrum Jülich GmbH (FZJ)	Wilhelm Johnen Strasse, Jülich 52428, Germany	
Fundacio Institut Catala de Nanociencia i Nanotecnologia (ICN2)	Campus de la UAB Edifici Q ICN2, Bellaterra (Barcelona) 08193, Spain	dpd@icn2.cat competitive.funding@icn2.cat

Laboratorio Iberico Internacional De Nanotecnologia (LIN INL)	Avenida Mestre Jose Veiga Congredados, Braga 4715 330, Portugal	
Joint Research Centre (JRC)	Rue de la Loi 200, Brussels 1049, Belgium	
Karlsruher Institut für Technologie (KIT)	Kaiserstrasse 12, Karlsruhe 76131, Germany	
Lunds Universitet (ULUND)	Paradisgatan 5c, Lund 22100, Sweden	Kristin Asgermyr dataskyddsombud@lu.se
Promoscience Srl (Promoscience)	Località Padriciano 99, Trieste 34012, Italy	Riccardo Brancaleon riccardo.brancaleon@promoscience.com
Paul Scherrer Institut (PSI)	Forschungstrasse 111, Villigen PSI 5232, Switzerland	
Technische Universität Graz (TU GRAZ)	Rechbauerstrasse 12, Graz 8010, Austria	
Universidad Autonoma de Barcelona (UAB)	Calle Campus Universitario Sn Cerdanyola V, Cerdanyola Del Valles 08290, Spain	
Università degli Studi di Milano (UMIL)	Via Festa del Perdono 7, Milano 20122, Italy	*Point of Contact:* Alberto Vailati alberto.vailati@fisica.unimi.it; *Central University DPO:* Pierluigi Perri dpo@unimi.it, supportodpo@unimi.it
Univerza V Novi Gorici (UNG)	Vipavska Cesta 13 Rozna Dolina, Nova Gorica 5000, Slovenia	

Annex C

Purpose

NFFA-Europe is a distributed research infrastructure that integrates nanofoundries (synthesis and manipulation of nanostructures) with fine analysis available at European large-scale facilities, creating a unique offer for the nanosciences and nanomaterials community.

NFFA-Europe PILOT provides a single-entry point to access the NFFA-Europe infrastructure for free. The projects qualified for access face complex nanoscience challenges that cannot be provided by any single research infrastructure alone.

NFFA-Europe PILOT will consolidate and expand the operation of an Interoperable Distributed Research Infrastructure for Nanoscience (IDRIN) – a unique platform to perform complex projects, offering a seamless series of science services to its users.

- Personal Data will be collected for the following purposes:
- Management and monitoring of the User activity at the NFFA-Europe facilities;
- Submission of communications which may be interesting to Users, concerning NFFA-Europe infrastructure and/or Calls for Proposals;
- Identification and verification of the access authorisation at the premises of NFFA-Europe facilities in compliance with applicable safety rules;
- Performance of the activities of the TLNet and the Access Review Panel during the proposal review process;
- Reimbursement procedures;
- Compliance with any legal, contractual and regulatory obligation in relation to funding bodies, auditors and corporate statutory and auditing bodies, project coordinators and/or the Parties;
- Internal statistics and periodic reporting purposes.

Data
Personal Data freely provided by the User by registering or authenticating on NFFA-Europe portal (www.nffa.eu) are: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID; Password.

Other personal Data are required only if an accepted proposal is carried out in presence in one or more sites of the NFFA-Europe infrastructure, to identify the Users at the premises of NFFA-Europe facilities and/or in case of suitability to obtain the financial support offered by the project. These fields have yet to be definitively defined.

The online privacy policy for the updated list of requested data can be consulted at: https://www.nffa.eu/apply/privacy/.

Method of Data processing and sharing
Personal Data will be collected through the registration form and the personal Data sheet in the reserved area of NFFA-Europe portal and stored in the central database. The Database is hosted on servers located in Italy. All the traffic between the web browser and the application is encrypted and collected Data will be directly stored in the central repository.

Data stored in the NFFA-Europe Database will be made selectively accessible during the project only to authorised staff of each Party through a personal authentication procedure. NFFA-Europe takes appropriate security measures to prevent unauthorized access, disclosure, modification, or unauthorized destruction of the Data.

The Data processing is carried out using computers and/or IT enabled tools, following organizational procedures and modes strictly related to the purposes indicated.

Annex D - Privacy Policy

NEP privacy policy explains to users how the website and the infrastructure will collect, store, protect, and utilize personal information they provide.

The updated privacy policy can be consulted by Users and beneficiaries on NFFA-Europe portal at https://www.nffa.eu/apply/privacy/

Privacy policy

This privacy policy has been prepared based on provisions of multiple legislations, including Art. 13/14 of Regulation (EU) 2016/679 (General Data Protection Regulation) and Regulation (EU) 2018/1725 of the European Parliament and of the Council.

This privacy policy relates solely to this Website, if not stated otherwise within this document.

Data Controllers

The Data Controllers are NFFA-Europe Pilot project partners providing Transnational Access or managing Data services:

23. Consiglio Nazionale delle Ricerche (CNR), Piazzale Aldo Moro 7, Rome 00185, Italy;
24. Commissariat a l'Energie Atomique et aux Energies Alternatives (CEA), Rue Leblanc 25, Paris 75015, France;
25. Centre National De La Recherche Scientifique (CNRS), Rue Michel Ange 3, Paris 75794, France;
26. Agencia Estatal Consejo Superior de Investigaciones Cientificas (CSIC), Calle Serrano 117, Madrid 28006, Spain;
27. Deutsches Elektronen-Synchrotron DESY (DESY), Notkestrasse 85, Hamburg 22607, Germany;
28. Ecole Polytechnique Federale de Lausanne (EPFL), Batiment CE 3316 Station 1, Lausanne 1015, Switzerland;
29. European Synchrotron Radiation Facility (ESRF), 71 Avenue Des Martyrs, Grenoble 38000, France;
30. eXact Lab Srl (EXACT LAB), Via Beirut 2-4, Trieste 34151, Italy;
31. Idryma Technologias Kai Erevnas (FORTH), N Plastira Str. 100, Irakleio 70013, Greece;
32. Forschungszentrum Jülich GmbH (FZJ), Wilhelm Johnen Strasse, Jülich 52428, Germany;
33. Fundacio Institut Catala de Nanociencia i Nanotecnologia (ICN2), Campus de la UAB Edifici Q ICN2, Bellaterra (Barcelona) 08193, Spain;
34. Laboratorio Iberico Internacional De Nanotecnologia (LIN INL), Avenida Mestre Jose Veiga Congredados, Braga 4715 330, Portugal
35. Joint Research Centre (JRC), Rue de la Loi 200, Brussels 1049, Belgium
36. Karlsruher Institut für Technologie (KIT), Kaiserstrasse 12, Karlsruhe 76131, Germany;
37. Lunds Universitet (ULUND), Paradisgatan 5c, Lund 22100, Sweden;
38. Promoscience Srl (Promoscience), Località Padriciano 99, Trieste 34012, Italy;
39. Paul Scherrer Institut (PSI), Forschungstrasse 111, Villigen PSI 5232, Switzerland;
40. Technische Universität Graz (TU GRAZ), Rechbauerstrasse 12, Graz 8010, Austria;
41. Technische Universität München (TUM), Arcisstraße 21, München 80333, Germany;
42. Universidad Autonoma de Barcelona (UAB), Calle Campus Universitario Sn Cerdanyola V, Cerdanyola Del Valles 08290, Spain;
43. Università degli Studi di Milano (UMIL), Via Festa del Perdono 7, Milano 20122, Italy
44. Univerza V Novi Gorici (UNG), Vipavska Cesta 13 Rozna Dolina, Nova Gorica 5000, Slovenia;

Contact

CNR-IOM Director acts as a single point of contact on behalf of the whole group of Parties (protocollo.iom@pec.cnr.it).

CNR Data Protection Officer can be reached at the following email address: rpd@cnr.it

Types of Data collected

Among the types of Personal Data automatically collected when using this Website, by itself or through third parties, there are: Tracker; Usage Data.
Personal Data freely provided by the User by registering or authenticating are: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID; Password.
Other Personal Data such as identification documents and bank account Data are required only in case of acceptance of a submitted Proposal and eligibility for NFFA-Europe financial support.

Unless specified otherwise, all Data requested by this Website is mandatory and failure to provide this Data may make it impossible for this Website to provide its services. In cases where this Website specifically states that some Data is not mandatory, Users are free not to communicate this Data without consequences to the availability or the functioning of the Service.

Any use of Cookies – or of other tracking tools – by this Application or by the owners of third-party services used by this Application serves the purpose of providing the Service required by the User, in addition to any other purposes described in the present document and in the Cookie Policy.

Users are responsible for any third-party Personal Data obtained, published or shared through this Website and confirm that they have the third party's consent to provide the Data to the Controllers.

Mode and place of processing the Data

Methods of processing
NFFA-Europe takes appropriate security measures to prevent unauthorized access, disclosure, modification, or unauthorized destruction of the Data.
The Data processing is carried out using computers and/or IT enabled tools, following organizational procedures and modes strictly related to the purposes indicated. Within our organization, your information is stored on password-protected servers that are accessible only to a limited group of people. All Data Controllers undertake to instruct and educate individuals who will have access to the Data. In some cases, the Data may be accessible to external parties appointed as Data Processors by the Data Controllers. The updated list of these parties may be requested by the User at any time.

Legal basis of processing
The Data Controllers may process Personal Data relating to Users if one of the following applies:

- Users have given their consent for one or more specific purposes;
- provision of Data is necessary for the performance of an agreement with the User and/or for any pre-contractual obligations thereof;
- processing is necessary for compliance with a legal obligation to which the Data Controllers is subject;

- processing is necessary for the purposes of the legitimate interests pursued by the Data Controllers or by a third party.

In any case, the Data Controllers will gladly help to clarify the specific legal basis that applies to the processing, and in particular whether the provision of Personal Data is a statutory or contractual requirement, or a requirement necessary to enter into a contract.

Place

The Data is processed at the Data Controllers' operating offices and in any other places where the involved Data Processors are located (European Union).

Retention time

Personal Data shall be processed and stored until 28/02/2031, as long as the Users' consent to processing is not withdrawn before this date.
After this date all personal information will be deleted from the servers but will still be part of the statistics of the European Commission and of the NFFA infrastructure.
Once the retention period expires, Personal Data shall be deleted. Therefore, the right of access, the right to erasure, the right to rectification and the right to Data portability cannot be enforced after expiration of the retention period.

The purposes of processing

The Data concerning the User is collected to allow the Data Controllers to provide its Service, comply with its legal obligations, respond to enforcement requests, protect its rights and interests (or those of its Users or third parties), detect any malicious or fraudulent activity, as well as for analytics purposes.

In any case, the processing operations shall be carried out in such a way as to guarantee the security, confidentiality and availability of the Data, according to principles of correctness, lawfulness and transparency, aimed at protecting the fundamental rights and freedoms of natural persons.

Specifically, Personal Data is collected for the following purposes and using the following services:

Registration and authentication

By registering or authenticating, Users allow this Website to identify them and give them access to dedicated services.

The Personal Data provided by registering or authenticating are required for:

- the management and monitor of your activity as a User at the NFFA-Europe facilities;
- the submission of communications which may be interesting to Users, concerning NFFA-Europe and/or Calls for Proposals;
- the performance of the activities of NFFA-Europe User Office Network.

The User registers by filling out the registration form and providing the Personal Data directly to this Website.

PERSONAL DATA PROCESSED: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID; Encrypted Password.

Authentication to NFFA-Europe services and Data management tools

Users' credentials provided by registering or authenticating to this Website also guarantee the access to different types of services and Data management tools. The Personal Data is collected after the first access of the user to the specific service and stored for registration or identification purposes only. The Data collected are only those necessary for the provision of the services. The updated list of these services may be requested by the User at any time.

PERSONAL DATA PROCESSED: Email address; Encrypted Password.

Proposal review process

Submitted Proposals are first checked for technical feasibility by technical experts internal to the project, then evaluated and ranked according to scientific merit by an external panel of reviewers.

DATA PROCESSOR: Access Review Panel members
PERSONAL DATA PROCESSED: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID.

Internal statistics and periodic reporting purposes

The Data collected are required for compliance of NFFA-Europe PILOT project with any legal, contractual and regulatory obligation in relation to the European Commission, auditors and corporate statutory and auditing bodies, project coordinators and/or partners. These Data, aggregated, are also used for internal project statistics.

PERSONAL DATA PROCESSED: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID.

Transnational access

In the event that a submitted proposal requiring Transnational Access is accepted, the identification documents Data provided by the user will be passed on exclusively to the assigned NFFA-Europe site/sites, to arrange the access. The sites offering Transnational Access are either NFFA-Europe partners or Third Parties, appointed as Data Processors by the Data Controllers.

PERSONAL DATA PROCESSED: First name; Last name; Email address; Gender; Nationality; Affiliation; Affiliation address; Affiliation legal status, Job; Research role; ORCID.

User Database management

The Database allows the Data Controllers to build user profiles by using the information that the User provides to this Website and to manage authorizations. Some of the services also enable the sending of timed messages to the User, such as emails based on specific actions performed on this Website and on related platforms. The companies offering these services are NFFA-Europe partners Promoscience and eXact lab.

PERSONAL DATA PROCESSED: All the Data.
PLACE OF PROCESSING: Italy

Hosting and backend infrastructure

This type of service has the purpose of hosting the password-protected servers that enable this Website and NFFA Datashare platform to run and be distributed as well as to provide a ready-made infrastructure to run specific features or parts of this Website. It also allows to save and manage backups of this Website on external servers managed by the service provider itself. The backups may include the source code and content as well as the Data that the User provides to this Website.

PERSONAL DATA PROCESSED: All the Data.
PLACE OF PROCESSING: Italy

Analytics

Google utilizes the Data collected to track and examine the use of this Website, to prepare reports on its activities and share them with other Google services.

Google may use the Data collected to contextualize and personalize the ads of its own advertising network. This integration of Google Analytics anonymizes your IP address.

DATA PROCESSOR: Google Analytics (Google Ireland Limited)
PERSONAL DATA PROCESSED: Tracker; Usage Data.
PLACE OF PROCESSING: Ireland – Privacy Policy – Opt Out.

Interaction with external social networks and platforms

This type of service allows interaction with social networks or other external platforms directly from the pages of this Website. The interaction and information obtained through this Website are always subject to the User's privacy settings for each social network. This type of service might still collect traffic Data for the pages where the service is installed, even when Users do not use it.

YouTube (Google LLC) – Privacy Policy
Google Maps (Google LLC) – Privacy Policy
Facebook (Facebook, Inc.) – Privacy Policy
Twitter (Twitter, Inc.) – Privacy Policy
LinkedIn (LinkedIn Corporation) – Privacy Policy

The rights of Users

Users may exercise the following rights regarding their Data processed by the Data Controllers:

· Withdraw their consent at any time: Users have the right to withdraw consent where they have previously given their consent to the processing of their Personal Data.

· Object to processing of their Data: Users have the right to object to the processing of their Data if the processing is carried out on a legal basis other than consent. Further details are provided in the dedicated section below.

· Access their Data: Users have the right to learn if Data is being processed by the Data Controllers, obtain disclosure regarding certain aspects of the processing and obtain a copy of the Data undergoing processing.

· Verify and seek rectification: Users have the right to verify the accuracy of their Data and ask for it to be updated or corrected.

· Restrict the processing of their Data: Users have the right, under certain circumstances, to restrict the processing of their Data. In this case, the Data Controllers will not process their Data for any purpose other than storing it.

· Have their Personal Data deleted or otherwise removed: Users have the right, as long as their personal Data are no longer necessary in relation to the purposes for which they were collected or otherwise processed, to obtain the erasure of their Data from the Data Controllers.

· Receive their Data and have it transferred to another Controller: Users have the right to receive their Data in a structured, commonly used and machine-readable format and, if technically

feasible, to have it transmitted to another Controller without any hindrance. This provision is applicable provided that the Data is processed by automated means and that the processing is based on the User's consent, on a contract which the User is part of or on pre-contractual obligations thereof.

·   Lodge a complaint: Users have the right to bring a claim before their competent Data protection authority.

Any requests to exercise User rights can be directed to the Data Controllers through the contact details provided in this document.

Cookies

This Website uses Tracking Tools. To find out more, the User can consult the Cookie Policy.

Additional information about Data collection and processing

Legal action
The User's Personal Data may be used for legal purposes by the Data Controllers in Court or in the stages leading to possible legal action arising from improper use of this Website or the related Services.
The User declares to be aware that the Data Controllers may be required to reveal personal Data upon request of public authorities.

Additional information about User's Personal Data
In addition to the information contained in this privacy policy, this Website may provide the User with additional and contextual information concerning particular Services or the collection and processing of Personal Data upon request.

System logs and maintenance
For operation and maintenance purposes, this Website and any third-party services may collect files that record interaction with this Website (System logs) use other Personal Data (such as the IP Address) for this purpose.

Information not contained in this policy
More details concerning the collection or processing of Personal Data may be requested from the Data Controllers at any time. Please see the contact information at the beginning of this document.

Changes to this privacy policy
The Data Controllers reserves the right to make changes to this privacy policy at any time by notifying its Users on this page. It is strongly recommended to check this page often, referring to the date of the last modification listed at the bottom.
Should the changes affect processing activities performed on the basis of the User's consent, the Data Controllers shall collect new consent from the User, where required.