



FLASH-COMP

D9.2– First Data Management Plan

Project full title	Flawless and sustainable production of composite parts through a human centered digital approach
Project acronym	FLASH-COMP
Call	HORIZON-CL4-2021-TWIN-TRANSITION-01
Topic	HORIZON-CL4-2021-TWIN-TRANSITION-01-02
Grant Agreement nº	101058458

Title of Deliverable:	D9.2 First Data Management Plan
Foreseen date of submission	31/03/2023
Actual date of submission	12/04/2023
Dissemination level	Public

Responsible for the Deliverable:	LORTEK
Editor(s):	M. García, A. García de la Yedra

Version	Date	Comments	Main Authors (Partners)
0	21/02/2023	First draft	LORTEK
1	31/03/2023	Approved by the Coordinator	Aitor García de la Yedra
2	12/04/2023	Logo and disclaimer update according to quality management plan. Approved by the Coordinator.	Emma Giovanni/Aitor García de la Yedra

DISCLAIMER :

“Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Commission. Neither the European Union nor the European Commission can be held responsible for them.”



Executive summary

In FLASH-COMP several kind of data will be generated, so Deliverable D9.2 aims at providing information and guidance for the correct management of that data. The following list provides an overview of the different type of data generated per research output:

RESEARCH OUTPUT	DATA	TYPE
Inspection and monitoring tools	Process parameters monitored, using inspection and monitoring instruments	Process data (e.g.: P, T, curing)
	Defect monitoring	Images, scans, light characteristics, ...
On-line Defect Severity Estimation software	Synthetic Data	Simulated data representative of process behaviour
	Process simulations data	Process data (e.g.: P, T, curing)
	Prediction results data	Results from AI algorithm
Decision support system software	Real-time FB/FF control strategies	process commands (adjustment of valves, T, P, ...)
Sustainability performance	Resource monitoring	Materials consumption, energy consumption, waste generation, process time, ...
Training material	Socio data	Opinion and suggestions of workers, personal information

This document is based on a standard Data Management Plan created by LORTEK for its coordinated European projects.



Content

1.	Data management and responsibility	4
1.1.	Consortium policy.....	4
1.2.	Data management responsible	4
1.3.	Data summary	4
2.	FAIR data	9
2.1.	Making data findable, including provisions for metadata	9
2.2.	Making data openly accessible.....	10
2.3.	Making data interoperable.....	10
2.4.	Increase data re-use	11
3.	Data security.....	11
4.	Ethical aspects	11
	ANNEX I. Open access dataset information	12



1. Data management and responsibility

1.1. Consortium policy

According to Open Research Data (ORD) requirements, the FLASH-COMP Data Management Plan (DMP) will be ruled by FAIR (Findable, Accessible, Interoperable and Reusable) Data Management Protocols. The ORD pilot applies primarily to the data needed to validate the results presented in scientific publications. Open-access to other data is encouraged on a voluntary basis if it is not sensitive or subject to protection.

Publishable data will be made accessible within 6 months of publishing the data in peer reviewed scientific articles or similar, unless beneficiaries have outlined justifiable reasons for maintaining data confidentiality.

Each beneficiary is responsible for their records and documentation in relation to data generated, which must be in line with the accepted standards in the respective field (if do exist). To avoid losses, beneficiaries must take measures to ensure that data is backed-up.

The General Assembly will rule the IPR and will meet at each face-to face meeting as well as every time (via teleconference) any WP leader proposes open access of generated data.

1.2. Data management responsible

The Project Data Contact will be the Project Coordinator, who is the direct contact with the European Commission. He will ensure that the DMP is respected with the support of the WP leaders. He will be in charge of:

- Ensuring the data is correctly uploaded into repositories through periodical checks
- Completing the DMP with the links related to the data and its regular update
- Ensuring the data availability
- Ensuring that information related to accessible data is in accordance with the produced data

Project Data Contact (PDC)	Aitor García de la Yedra
PDC Affiliation	LORTEK
PDC mail	agarciadelayedra@lortek.es
PDC telephone number	+34 943 882 303

1.3. Data summary

Table 1 provides a general overview of the type of data that will be generated and which will be open access. Each open access dataset will be described in detail according to the template showed in Table 2. Annex I includes the available information for each identified open access dataset. Updates of DMP will include any update in these tables.



Table 1. Data summary

Data Nature	Type*	Use	Origin (Partner)	Potential users	Link with previous data	Open access
Process parameters monitored, using inspection and monitoring instruments	EXP	Inspection and monitoring tools	WP2 Partners	Project partners, composite parts manufacturers, automation solution providers.	Data from previous projects. Bibliography.	Partially (if IPR issues are not compromised)
Defect monitoring	EXP	Inspection and monitoring tools	WP2 Partners	Project partners, composite parts manufacturers, automation solution providers.	Data from previous projects. Bibliography.	Partially (if IPR issues are not compromised)
Synthetic Data	NUM	On-line Defect Severity Estimation software	MSI	Project partners, composite parts manufacturers	Data from previous projects. Bibliography.	No**. This info is used to develop an algorithm that can be protected as IPR.
Process simulations data	NUM	On-line Defect Severity Estimation software	ESI	Project partners, composite parts manufacturers.	Data from previous projects. Bibliography.	
Prediction results data	NUM	On-line Defect Severity Estimation software	ESI	Project partners, composite parts manufacturers	Data from previous projects. Bibliography.	
Real-time FB/FF control strategies	NUM	Decision support system software	ESI (AIMEN)	Project partners, composite parts manufacturers	Data from previous projects.	
Resource monitoring	ENV	Sustainability performance	POLIMI	Project partners, composite parts manufacturers, researchers	Bibliography, data from commercial products	Yes. Data generated in this project



Funded by the
European Union



Socio data	SOC	Training material	ESTIA	Technical schools, industrial clusters	Methodology from previous projects	No. Need to compile with GDPR and ethics
------------	-----	-------------------	-------	---	---------------------------------------	---

* NUM: numerical, EXP: experimental, SOC: social, ENV: environmental

** Datasets information that can create competitive advantage in their respective businesses to the partners will remain confidential. →



Table 2. Dataset description

Dataset [name dataset]

Data Storage	ZENODO
Link to repository	https://zenodo.org/XXX
Dataset Identifier	DOI number
Relevant Keywords	
Data Licence	CC BY 4.0
Date for Data Publication	
Date of data collection	
Data Version	Zenodo DOI versioning
Data Preservation time	5 year
Name of the Dataset Responsible (DSR)	(owner of the data)
DSR e-mail	
DSR Telephone	
Partner organisations involved in this dataset	
Funding body(ies)	European Union's Horizon Europe Programme
Grant number	101058458
Project duration	Start: 2022/10/01 End: 2026/03/31
Date DMP created	2023/03/31
Date last update	
DMP Version	
Name of the DMPR	Aitor García de la Yedra (LORTEK)
DMPR e-mail	agarciadelayedra@lortek.es
DMPR Telephone	+34 943 882 303



Description of the research	Briefly summarise the research question to help others understand the purposes for which the data are being collected or created
Data Collection	Give a short description of the data, including amount (if known) and content.
Existence of similar data	N/A
Nature of the Data	There are three main types of research data: • Experimental data • Numerical data • Statistical data • Environmental data • Social data Please select your type
Data Type	There several type of data, such as • text, • numbers, • images, • 3D models, • software, • audio files, • video files, • reports, • etc. Please select your type
Data Format	Depending of the nature of the data, there are different type of format associated. Please specify the format of our data • .txt • Ascii, .xlsx, • Jpg,.tif, .ps, .png • . .DWG, .DXF, .DGN, .STL ,.3DS, ... • .f, .c, • .WAV, .AIF, .MP3, .MID • .MPG, .MOV, .WMV, .RM • .doc, .eps, .ps, .pdf Please select your type
Data Size	300 K
Number of files	X



Descriptive file	<i>Read_me.txt</i>
Data File	<i>Input.txt</i>
Quality/Accuracy	<i>Depending of the nature of the data</i>
Unit measurement system	<i>SI</i>
Potential Users	<i>Universities, Research Centers, composite manufacturers,...</i>
Ethical Issue	<i>NA/OEI requirement</i>

2. FAIR data

FLASH-COMP will ensure the generation of FAIR data, so it will take measures to ensure that data is Findable, Accessible, Interoperable, and Reusable.

2.1. Making data findable, including provisions for metadata

FLASH-COMP will deposit generated and collected data in an open online research repository under Creative Commons Attribution International Public License (**CC BY**) or Creative Commons Public Domain Dedication (**CC 0**). The primary repository selected in FLASH-COMP is ZENODO, which was developed by CERN as part of the OpenAIRE (Open Access Infrastructure for Research in Europe) project. ZENODO allows researchers to deposit both publications and data, providing tools to linking them to these through persistent identifiers and data citations. It facilitates the finding, assessing, re-using and interoperating of datasets which are the basic principles for FAIR data that projects must comply with. A dedicated ZENODO community has been created for FLASH-COMP, where the created open data will be collected (<https://zenodo.org/communities/?p=FLASH-COMP>).

The guidelines provided by ZENODO will be used by FLASH-COMP to comply with FAIR principles.

In order to store and make findable any FLASH-COMP openly accessible data, the chosen online repository needs to facilitate identification of data and refer to standard identification mechanisms (ideally persistent and unique identifiers such as Digital Object Identifiers), which should be outlined.

The dataset naming should be according to this scheme:

[Name of the project]-[Type of Data]-[Name of dataset]-[Date]
being :

- Name of the project: "FLASH-COMP"
- Type of data: "NUM", "EXP", "ENV", "SOC"
- Name of the dataset
- Date: YYYY/MM/DD

Metadata of deposited data must be open under a Creative Common Public Domain Dedication (**CC 0**) or equivalent (to the extent legitimate interests or constraints are safeguarded), in line with the FAIR principles and provide information at least about the following:



- datasets (description, date of deposit, author(s), and embargo);
- Horizon Europe funding;
- project name, acronym and number;
- licensing terms;
- persistent identifiers for the dataset,
- the organisations involved in the action.
- Where applicable, the metadata must include persistent identifiers for related publications and other research outputs.

2.2. Making data openly accessible

In order to maximize the impact of FLASH-COMP data, the project will facilitate sharing of results and data within and outside the consortium. Selected data and results will be shared with the scientific community and other stakeholders through publications in scientific journals and presentations at conferences, as well as through open access data repositories. There will be an open access policy applied to these following the rules outlined in the Grant Agreement.

The General Assembly will review and approve all data that is identified as appropriate for open access. This process will be carried out on an ongoing basis to facilitate the publication of appropriate data as soon as possible. The General Assembly is responsible for the IPR issues within FLASH-COMP and their approval will avoid any possible conflicts between open access and IPR issues.

All data will be made available for verification and re-use, unless the data owner can justify why data cannot be made openly accessible. The General Assembly will assess such justifications and make the final decision, based on examination of the following elements regarding confidentiality of datasets:

- Commercial sensitivity of datasets
- Data confidentiality for security reasons
- Conflicts between open-access rules and national and European legislation (e.g. data protection regulations).
- Sharing data could jeopardise the objectives of the project
- Other legitimate reasons, to be validated by the General Assembly

Upon deciding that a database should be kept confidential, the reasons for doing so will be included in an updated version of the DMP. The data will be accessible through:

- Publications in scientific journals
- The Project website
- ZENODO repository (or any other repository complying with statements in section 2.1)

To encourage re-use and further application of project results, all FLASH-COMP data that underlies scientific publications will be made available via open-access online platforms, unless subject to protection, OR unless release of all or part of the data to open-access platforms could jeopardise the project's main objectives.

2.3. Making data interoperable

Partners will observe OpenAIRE guidelines for online interoperability, including as set of guidelines that includes OpenAIRE Guidelines for Literature Repositories, OpenAIRE Guidelines for Data Archives, etc. These guidelines can be found at: <https://guidelines.openaire.eu/en/latest/>.



The project will use vocabularies, standards, formats and methodologies as defined in Table 2 to facilitate interoperability.

2.4. Increase data re-use

FLASH-COMP is expected to produce a novel data and knowledge through experimental approaches that will be presented to the scientific community and industry, through a carefully designed portfolio of dissemination actions. Datasets uploaded in the ZENODO repository will be freely accessible after an embargo period determined per dataset, if required.

As the project progresses and data is identified and collected, further information on increasing data re-use will be outlined in subsequent versions of the DMP. In specific, information on how data will be licenced to permit the widest reuse possible, when the data will be made available for re-use, whether the data produced and/or used in the project is useable by third parties and specifications of length of time for which the data will remain reusable will be provided.

3. Data security

FLASH-COMP will ensure safety store of data by the following ways:

- Use of ZENODO (or similar repository)
- Each beneficiary will keep a back-up of the own generated data

4. Ethical aspects

During the project development a skills development training program is planned which will consider social & behavioural aspects, as well as technical skills requirements. Several interviews with end users, as well as observations on the different tasks they perform on a daily basis will be identified/collected. The identification of operators' profiles, by individual interviews is also planned. Operator's opinion/suggestions about the developed technical solutions will be collected.

In order to ensure compliance with GDPR and Ethical issues, an Ethics advisor has been hired, who has prepared a report to guarantee the impartiality of the experts conducting the research and the appropriate terms of data protection.

All this information is collected in Deliverable D10.1 OEI requirement.



ANNEX I. Open access dataset information

Dataset [name dataset]

Data Storage	ZENODO
Link to repository	https://zenodo.org/XXX
Dataset Identifier	DOI number
Relevant Keywords	
Data Licence	CC BY 4.0
Date for Data Publication	
Date of data collection	
Data Version	Zenodo DOI versioning
Data Preservation time	5 year
Name of the Dataset Responsible (DSR)	(owner of the data)
DSR e-mail	
DSR Telephone	
Partner organisations involved in this dataset	
Funding body(ies)	European Union's Horizon Europe Programme
Grant number	101058458
Project duration	Start: 2022/10/01 End: 2026/03/31
Date DMP created	2023/03/31
Date last update	
DMP Version	
Name of the DMPR	Aitor García de la Yedra (LORTEK)
DMPR e-mail	agarciadelayedra@lortek.es
DMPR Telephone	+34 943 882 303



Description of the research	Briefly summarise the research question to help others understand the purposes for which the data are being collected or created
Data Collection	Give a short description of the data, including amount (if known) and content.
Existence of similar data	N/A, other related datasets
Nature of the Data	There are three main types of research data: • Experimental data • Numerical data • Statistical data • Environmental data • Social data Please select your type
Data Type	There several type of data, such as • text, • numbers, • images, • 3D models, • software, • audio files, • video files, • reports, • etc. Please select your type
Data Format	Depending of the nature of the data, there are different type of format associated. Please specify the format of our data • .txt • Ascii, .xlsx, • Jpg,.tif, .ps, .png • . .DWG, .DXF, .DGN, .STL ,.3DS, ... • .f, .c, • .WAV, .AIF, .MP3, .MID • .MPG, .MOV, .WMV, .RM • .doc, .eps, .ps, .pdf Please select your type
Data Size	<300 KB or <1000KB
Number of files	X



Descriptive file	<i>Read_me.txt</i>
Data File	<i>Input.txt</i>
Quality/Accuracy	<i>Depending of the nature of the data</i>
Unit measurement system	<i>SI</i>
Potential Users	<i>Universities, Research Centers, composite manufacturers,...</i>
Ethical Issue	<i>NA/OEI requirement</i>