RECLAIM

Refurbishment and re-manufacturing of large industrial equipment

Data Management Plan

March 2020 - M6

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[1] PU = Public
PP = Restricted to other programme participants (including the Commission Services)
RE = Restricted to a group specified by the consortium (including the Commission Services)
CO = Confidential, only for members of the consortium (including the Commission Services)

Document history

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.1	24/03/2020	HWH	Niels Mitzschke	Data sets added
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Abbreviations and Acronyms

Abbreviation	
AR	Augmented Reality
CSV	Comma-separated values – file format
DMP	Data Management Plan
DS	Data Set(s)
DSF	Decision Support Framework
EoL	End of Life
ERP	Enterprise Resource Planning
EU	European Union
IPR	Intellectual Property Rights
JSON	JavaScript Object Notation – file format
KPI	Key Performance Indicator
MES	Manufacturing Execution System
MRP	Material Requirements Planning
OEE	Overall Equipment Effectiveness
ORDP	Open Research Data Pilot
PHM	Prognostic and Health Management
PLC	Programmable Logic Controller
PM	Predictive Maintenance
Tx.y	Task in a Work Package
TXT	Textfile – file format
WP	Work Package
XLSX	Standard file format of Microsoft Excel
Acronym	
FAIR	**F**indable, **A**ccessible, **I**nteroperable, **R**e-Useable

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1 Introduction

1.1 Summary

The vision of RECLAIM is to demonstrate technologies and strategies to support a new paradigm for refurbishment and re-manufacturing of large industrial equipment in factories, paving the way to a circular economy. Its ultimate goal is to save valuable resources by reusing equipment instead of discarding them. RECLAIM will support legacy industrial infrastructures with advanced technological solutions with built-in capabilities for in-situ repair, self-assessment and optimal re-use strategies. It will establish new concepts and strategies for repair and equipment upgrade and factory layouts' redesign in order to gain economic benefits to the manufacturing sector.

The technological core of RECLAIM is a novel Decision Support Framework (DSF) that guides the optimal refurbishment and re-manufacturing of electromechanical machines and robotics systems.

Over the project period, RECLAIM will generate a large amount of R&D data. These data come from pilot plants in various branches of the industry. From direct and indirect sensor signals, theoretical and numerical analyses, simulations as well as prototype device testing and validation. As a project participating in the Open Research Data Pilot in Horizon 2020, RECLAIM will make its research data **FAIR**, which means they are Findable, Accessible, Interoperable and Re-Usable.

1.2 Scope and structure of the deliverable

The present report is the deliverable D1.3 of the project, RECLAIM's Data Management Plan (DMP). The DMP's purpose is, therefore, to provide the main elements of the data management policy to be used by the Consortium. It describes:

- **types and formats of data to be generated, collected and processed,**
- **the standards to be applied,**
- **the data-reservation methods,**
- **the data-sharing policies for re-use.**

The present document is the 1st version of RECLAIM DMP, containing a summary of the data sets; i.e., types, formats and sources (WPs and partner names) and specific conditions to be applied for sharing and reuse. As a living document, the DMP will be modified and refined through updates as the project implementation progresses and/or significant changes occur. At minimum one more iteration will be submitted, at M42, with the corresponding updates in the context of the normal course of the project.

The document covers the following topics:

- **General principles for Data Management Plan**
- **Necessary Information for the description of RECLAIM Data sets**
- **Conclusions and remarks**

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2 General Principles

2.1 Research data types and open access policy of RECLAIM

RECLAIM participates in the Pilot on Open Research Data (ORDP) launched by the European Commission along with the Horizon2020 program. The members of the consortium embrace the concepts and the principles of open science and acknowledge the benefits of reusing and evaluating already produced data for promoting and supporting research and innovation projects at European level. The data generated during the project activities may be available in open access for further analysis and exploitation.

The data generated over the project lifetime can be divided into three categories:

- **Open Data**: Data that are publicly shared for re-use and exploitation
- **Private Data**: Data that are retained by individual partners for their own processes and tests
- **Confidential Data**: data that are available only for the members of the consortium and the EU commission services and subjected to the project non-disclosure-agreement

2.2 IPR

As data is used as a basis for almost all activities within the RECLAIM project, the handling of IPR (Intellectual Property Rights) related to data is of high importance. IPR handling is explicitly addressed by Task T8.1 “Management of IPR”. Even if this task has only started this month (M6), first activities have been started already. For example, IPR issues and activities have been presented during the 6 months virtual meeting on 24th March 2020. Within the ongoing activities, IPR management will also take the handling of RECLAIM data into account. Detailed measures and procedures will be reported in the updated version of this Data Management Plan.

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3 Data sets

All Partners in RECLAIM have initially identified the data that will be produced and/or used in the different WP's and project activities. Changes (addition/removal of data sets) and later updates resulting from the progress of the project are marked accordingly in the next versions of the DMP. The type of data set and corresponding details are given in the following sections.

3.1 Data sets overview

The following table provides an overview of the different data sets used and produced during the RECLAIM project.

No.	Data set name	Responsible
1	DS.HWH.01.FRICTION_WELDING_MACHINE	HWH
2	DS.HWH.02.MAINTENANCE_DATA	HWH
3	DS.FEUP.01.PREDICTIVE_MAINTENANCE	FEUP
4	DS.FEUP.02.DEGRADATION_DATA_SET	FEUP
5	DS.FEUP.03.ANOMALY_DETECTION	FEUP
6	DS.FEUP.04.QUALITY_PREDICTION	FEUP
7	DS.ASTON.01.REMANUFACTURING_PROCESS	ASTON
8	DS.ASTON.02.COST_BENCHMARKING_HISTORICAL	ASTON
9	DS.ZORLUTEKS.01.BLEACHING_MACHINE	ZORLUTEKS
10	DS.CERTH.01.DECISION_SUPPORT_FRAMEWORK_OUTPUT	CERTH
11	DS.CERTH.02.IN_SITU_REPAIR_DATA_ANALYTICS_OUTPUT	CERTH
12	DS.CERTH.03.AR_MECHANISMS_OUTPUT	CERTH
13	DS.Gorenje.01.DW_Robot_Cells	Gorenje
14	DS.Gorenje.02.WHITE_ENAMELLING_LINE	Gorenje
15	DS.ADV-CTCR-TECNALIA.01.FORMING_MACHINE_FOR_REAR_PARTS	ADV, CTCR, TECNALIA
16	DS.ADV-CTCR-TECNALIA.02.FORMING_MACHINE_FOR_REAR_PARTS_ROTOSTIR	ADV, CTCR, TECNALIA
17	DS.ADV-CTCR-TECNALIA.03.CUTTING_MACHINE	ADV, CTCR, TECNALIA
18	DS.FLUCHOS.01.FORMING_MACHINE_FOR_REAR_PARTS	FLUCHOS
19	DS.FLUCHOS.02.FORMING_MACHINE_FOR_REAR_PARTS_ROTOSTIR	FLUCHOS
20	DS.FLUCHOS.03.CUTTING_MACHINE	FLUCHOS
21	DS.SUPSI.01.FailuresHighLevelData_Gorenje	SUPSI
22	DS.SUPSI.02.FailuresHighLevelData_FLUCHOS	SUPSI
23	DS.SUPSI.03.FailuresHighLevelData_Podium	SUPSI
24	DS.SUPSI.04.FailuresHighLevelData_Zorluteks	SUPSI
25	DS.SUPSI.05.FailuresHighLevelData_HWH	SUPSI
26	DS.SUPSI.06.LCAData_Gorenje	SUPSI
27	DS.SUPSI.07.LCAData_FLUCHOS	SUPSI
28	DS.SUPSI.08.LCAData_Podium	SUPSI
29	DS.SUPSI.09.LCAData_Zorluteks	SUPSI
30	DS.SUPSI.10.LCAData_HWH	SUPSI

A detailed description of each data set is given in the sections below.

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3.2 Harms & Wende

DS.HWH.01.FRICTION_WELDING_MACHINE	
Data Identification	
Data set description	Data that is generated and stored during a friction welding process by a friction welding machine
Source (e.g. which device?)	Friction welding machine including the different sensors attached
Partners activities and responsibilities	
Partner owner of the device	HWH
Partner in charge of the data collection (if different)	HWH
Partner in charge of the data analysis (if different)	FEUP
Partner in charge of the data storage (if different)	HWH
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so,

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	degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at HWH during the project duration.

DS.HWH.02.MAINTENANCE_DATA	
Data Identification	
Data set description	Data that is gathered and stored during the maintenance of a friction welding machine
Source (e.g. which device?)	The data is gathered by the HWH service & repair department.
Partners activities and responsibilities	
Partner owner of the device	HWH
Partner in charge of the data collection (if different)	HWH
Partner in charge of the data analysis (if different)	FEUP
Partner in charge of the data storage (if different)	HWH
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	

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Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include any data related to the repair of a machine. This includes a) machine data such as machine type, serial number, etc. b) customer data such as customer name, delivery time, application etc. and c) data on repair such as repair time, components changed, etc.
Standards, Format, Estimated volume of data	The data is stored in pd documents. One document for each machine/repair task. Most of the data is text. However, pictures might be included. Thus, the data volume can be about several Megabytes per month.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for root cause analysis and for finding the maintenance hotspots.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at HWH during the project duration.

3.3 University of Porto

DS.FEUP.01.PREDICTIVE_MAINTENANCE	
Data Identification	
Data set description	Data that will be used and produced by the Predictive Maintenance models
Source (e.g. which device?)	Friction Welding machine and Predictive Maintenance Algorithm for failure

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	prediction, and maintenance action recommendation.
Partners activities and responsibilities	
Partner owner of the device	FEUP
Partner in charge of the data collection (if different)	FEUP, HWH
Partner in charge of the data analysis (if different)	FEUP
Partner in charge of the data storage (if different)	HWH
WPs and tasks	WP3, T3.3
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Inputs: time-series sensor and process data from components and / or equipment; Maintenance actions (name, duration and components involved); errors; malfunctions; production schedule. Output: Which component will fail, when it will fail and recommendation of maintenance actions and when to perform it (Component; Duration; Maintenance Action).
Standards, Format, Estimated volume of data	Since maintenance actions do not occur often, the space required is very low. The historical data (input) might take several Gb of space.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The input data will be used for model training and testing of several PM strategies, as the data output of the model will be used for decision making, resulting in a database of recommendations and further refinement of the model.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only, and the inputs and outputs will be anonymized.

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Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in FEUP server or in any RECLAIM repository available

DS.FEUP.02.DEGRADATION_DATA_SET	
Data Identification	
Data set description	Data that will be used and produced by the Degradation Model
Source (e.g. which device?)	Friction Welding and Degradation Algorithm for failure degradation prediction based on further machine use and current condition.
Partners activities and responsibilities	
Partner owner of the device	FEUP
Partner in charge of the data collection (if different)	FEUP, HWH
Partner in charge of the data analysis (if different)	FEUP
Partner in charge of the data storage (if different)	HWH
WPs and tasks	WP4, T4.2
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Inputs: time-series sensor and process data from components and / or equipment; Time from last repair; Amount of time used; Current machine conditions (Throughput, machine parameters). Output: Mean time to failure (or similar KPI) according the future parameterization and use of the machine.
Standards, Format, Estimated	Since degradation predictions that are critical and pertinent will be stored, the

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volume of data	space required is very low. The historical data (input) might take several Mb of space.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The input data will be used for model training and testing, as the data output of the model will be used for decision making, resulting in a database of important predictions and further refinement of the model.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only, and the outputs will be anonymized.
Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in FEUP server or in any RECLAIM repository available

DS.FEUP.03.ANOMALY_DETECTION	
Data Identification	
Data set description	Data that will be used and produced by the Anomaly Detection algorithm
Source (e.g. which device?)	Friction Welding and Anomaly Detection for observed misbehaviours that might require attention, raise alarms / notifications, or machine shutdown.
Partners activities and responsibilities	
Partner owner of the device	FEUP
Partner in charge of the data collection (if different)	FEUP, HWH
Partner in charge of the data analysis (if different)	FEUP

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Partner in charge of the data storage (if different)	HWH
WPs and tasks	WP3, T3.3, WP4 T4.2
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Inputs: time-series sensor and process data of normal (or abnormal) behaviour from components and / or equipment. Output: Based on the identified patterns, classify data into anomaly or normal data.
Standards, Format, Estimated volume of data	Since anomalies might not be so often, the space required will be low (Mb). The historical data (input) might take several Mb of space.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The input data will be used for pattern recognition and testing, as the data output of the model will be used for decision making, as input for more complex models like Predictive Maintenance or Degradation, and further refinement of the model.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only, and the outputs will be anonymized.
Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in FEUP server or in any RECLAIM repository available

DS.FEUP.04.QUALITY_PREDICTION	
Data Identification	
Data set description	Data that will be used and produced by the Process Quality model for further process parameter estimation when a new product

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	needs to be produced, or an existing one needs to be calibrated.
Source (e.g. which device?)	Friction Welding and Process Quality prediction.
Partners activities and responsibilities	
Partner owner of the device	FEUP
Partner in charge of the data collection (if different)	FEUP, HWH
Partner in charge of the data analysis (if different)	FEUP
Partner in charge of the data storage (if different)	HWH
WPs and tasks	WP4 T4.2
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Inputs: 1) Machine parameters; 2) Product / process quality; 3) Product specs. Output: Quality Prediction and recommended parameters based on a quality target.
Standards, Format, Estimated volume of data	Since calibrations might not be so often, the space required will be low (Mb). The historical data (input) might take several Mb of space.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The input data will be used for model training and testing, as the data output of the model will be used for decision making and further refinement of the model.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only, and the outputs will be anonymized.
Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No

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Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in FEUP server or in any RECLAIM repository available

3.4 Aston University

DS.ASTON.01.REMANUFACTURING_PROCESS	
Data Identification	
Data set description	Data will be used for estimating the cost of remanufacturing/refurbishment etc. End-of-Life (EoL) options.
Source (e.g. which device?)	Partners and Remanufacturers' practice
Partners activities and responsibilities	
Partner owner of the device	HWH etc. remanufacturing practitioner
Partner in charge of the data collection (if different)	HWH etc. remanufacturing practitioner, ASTON
Partner in charge of the data analysis (if different)	ASTON
Partner in charge of the data storage (if different)	HWH, ASTON
WPs and tasks	WP4, T4.3
Standards	
Info about metadata (Production and storage dates, places) and documentation?	The indicative metadata include: 1) remanufacturer name, 2) specific machine, 3) machine conditions, 4) remanufacturing activities, 5) resources required for activities, 6) time required for activities.
Standards, Format, Estimated volume of data	Numerical number and text.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for estimating the cost of each End-of-Life strategy and process.

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Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only.
Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in Aston's server or in RECLAIM project repository

DS.ASTON.02.COST_BENCHMARKING_HISTORICAL	
Data Identification	
Data set description	Data will be used for estimating the cost of remanufacturing/refurbishment etc. End-of-Life (EoL) options.
Source (e.g. which device?)	Partners and Remanufacturers' practice, various public resources
Partners activities and responsibilities	
Partner owner of the device	ASTON
Partner in charge of the data collection (if different)	ASTON
Partner in charge of the data analysis (if different)	ASTON
Partner in charge of the data storage (if different)	ASTON
WPs and tasks	WP4, T4.3
Standards	
Info about metadata (Production and storage dates, places) and documentation?	The indicative metadata include: 1) data source 2) scenario of the data, 3) time of the data being valid 5)
Standards, Format, Estimated volume of data	Numerical number and text.

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Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for estimating the cost of each End-of-Life strategy
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data will be given to the consortium only.
Data sharing, re-use and distribution (How?)	RECLAIM repository
Embargo periods (if any)	No
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data can be stored in Aston's server or in RECLAIM project repository

3.5 Zorluteks

DS.ZORLUTEKS.01.BLEACHING_MACHINE	
Data Identification	
Data set description	Data that is generated and stored during a bleaching process by a bleaching machine
Source (e.g. which device?)	Bleaching machine includes different sensors attached such as temperature sensors in washing baths and steamer, liquid level sensors in the washing baths and bleaching chemical through, humidity sensor to measure humidity of bleached fabric at the end of the machine. Furthermore, it is possible to monitor velocity of the machine and recipes for different quality of feeding fabric by PLC monitoring on the bleaching machine. PLC monitoring system also helps determining electricity, steam and water consumptions daily. There is an online platform which takes data from PLCs. By using this, energy consumptions, efficiency and reasons for stops are detailed and analysed based on each machine in the production plant.

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Partners activities and responsibilities	
Partner owner of the device	ZORLUTEKS
Partner in charge of the data collection (if different)	ZORLUTEKS
Partner in charge of the data analysis (if different)	TEC, ADV and CTCR
Partner in charge of the data storage (if different)	ZORLUTEKS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Metadata includes production-related information and machine-related information. Production-related information can be exemplified types of fabric with its production amount and production time obtained by SCADA System. Data can be handled transiently. Machine-related information be illustrated as serial number.
Standards, Format, Estimated volume of data	Stored data in proprietary format can be exported to Excel. The volume is estimated to several Megabytes per day based on the production volume.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data, amount of energy consumption and efficiency of the machine in order to estimate the machine's current state and to predict the machine's future behaviour. So that, degradation models will be advanced based on the data.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and	The data will be shared via the RECLAIM

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distribution (How?)	repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at Zorluteks during the project duration. Water, steam and energy consumptions, efficiencies and production-related information such as type of fabric with its production amount as well as production time in a period of time can be stored in the on-line platform and SCADA System. However, data obtained by sensors and recipes information used for different types of feeding fabric do not be stored.

3.6 Center for Research and Technology Hellas

DS.CERTH.01.DECISION_SUPPORT_FRAMEWORK_OUTPUT	
Data Identification	
Data set description	Based on evaluation metrics to be defined, raw data from T3.1, the output of data analysis components from T3.2-T3.4, T4.2 and T4.3, as well as lifetime extension strategies from T4.1, the Decision Support Framework (DSF) will infer 1) the most suitable remanufacturing/refurbishment strategy, 2) the preferable timeframe for the implementation of the strategy, 3) the right components to be remanufactured/refurbished, 4) the optimal design alternative. In contrast with the Optimization Toolkit of T3.4, which performs only operational optimization in single machines, T4.4 performs operational optimization globally, i.e. in whole production lines or set of machines of each pilot use case, considering also business aspects (financial etc.) based on T4.1 and T4.3.
Source (e.g. which device?)	Decision Support Framework (T4.4)

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Partners activities and responsibilities	
Partner owner of the device	CERTH
Partner in charge of the data collection (if different)	• **pilots[1] (as end users)** • **ICE (as responsible for data storage in RECLAIM Repository)** • **partners from T3.1 (as responsible for communication)** • **CERTH (as responsible for integration)** • **partners from T5.1, T5.5, T7.4 (for meta-analysis)**
Partner in charge of the data analysis (if different)	partners from T5.1, T5.5, T7.4
Partner in charge of the data storage (if different)	ICE, pilots
WPs and tasks	• **data generation: T4.4** • **data storage: T3.2, T6.3-T6.7** • **data meta-analysis: T5.1, T5.5, T7.4**
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will be properly documented.
Standards, Format, Estimated volume of data	• **JSON/CSV/XLSX/TXT format** • **The volume cannot be estimated yet. If it is too high, temporal aggregation may take place.**
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	• **The data will be directly visualized by the pilots.** • **T5.1 will have input from T4.4 and will export the inference of refurbishment and re-manufacturing plan.** • **The real-time 3D annotation module of the AR Mechanisms (T5.5) will**

[1] GORENJE, FLUCHOS, PODIUM, HWH, ZORLUTEKS

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	receive proposed actions & parts IDs. • T7.4 will use WP4 outputs, among other data, to develop reliable and robust digital replica of the physical machines.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	This depends on the pilots' policy.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	Same as embargo periods for the DSF input data
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored on the Cloud and/or the respective pilot plant. The storage duration will depend on the policy of the storage manager.

DS.CERTH.02.IN_SITU_REPAIR_DATA_ANALYTICS_OUTPUT	
Data Identification	
Data set description	This data set is the output of the component corresponding to T5.2 and building block 8. The exact role of it will depend on the pilot needs. In any case, it will consist of algorithms and visual analytics. One possible option is that a camera or laser sensor that will be taking 3D data from the product is installed, and an image processing algorithm (supervised or unsupervised, depending on the presence or absence of ground truth data respectively) will be comparing it with the ideal form of the product and based on that will be inferring (in the supervised case) what action should be taken on the equipment producing it. If 3D data cannot be acquired, process data from machinery data collectors may be used as input instead.

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Source (e.g. which device?)	In-situ repair data analytics for situational awareness (T5.2)
Partners activities and responsibilities	
Partner owner of the device	CERTH
Partner in charge of the data collection (if different)	• **pilots (as end users)** • **ICE (as responsible for data storage in RECLAIM Repository)** • **partners from T3.1 (as responsible for communication)** • **CERTH (as responsible for integration)**
Partner in charge of the data analysis (if different)	None (no meta-analysis)
Partner in charge of the data storage (if different)	ICE, pilots
WPs and tasks	• **data generation: T5.2** • **data storage: T3.2, T6.3-T6.7**
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	• **The format is still unknown.** • **The volume cannot be estimated yet. If it is too high, temporal aggregation may take place.**
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be directly visualized by the pilots.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	This depends on the pilots' policy.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data

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	communication mechanisms.
Embargo periods (if any)	same as embargo periods for the In-Situ Repair Data Analytics Toolkit input data
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored on the Cloud and/or the respective pilot plant. The storage duration will depend on the policy of the storage manager.

DS.CERTH.03.AR_MECHANISMS_OUTPUT	
Data Identification	
Data set description	AR User Interface, contextual interaction.
Source (e.g. which device?)	AR Mechanisms (T5.5)
Partners activities and responsibilities	
Partner owner of the device	CERTH
Partner in charge of the data collection (if different)	CERTH
Partner in charge of the data analysis (if different)	None (no meta-analysis)
Partner in charge of the data storage (if different)	CERTH
WPs and tasks	T5.5
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	• **JSON format & others** • **volume cannot be estimated**
Data exploitation and sharing	
Data exploitation (purpose/use of	The data will be directly visualized by the

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the data analysis)	pilots.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	This depends on the pilots' policy.
Data sharing, re-use and distribution (How?)	AR devices (glasses, tablets etc.) will display the part of the machine that needs repair and then a sequence of disassembly steps of the engine parts will be displayed with images and videos.
Embargo periods (if any)	same as embargo periods for the AR input data
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored on the Cloud and/or the respective pilot plant. The storage duration will depend on the policy of the storage manager.

3.7 Gorenje

DS.Gorenje.01.DW_Robot_Cells	
Data Identification	
Data set description	DW Robot Cell set for making tubs consists of: A-cell, B-cell, C-cell, D-cell, E-cell, outer bottom cell. Data is generated and stored during different processes as spot welding, punching, double bending, seam welding and other support processes by robot cells set equipment.
Source (e.g. which device?)	6 robot cells: different robots, punching and welding machines and other equipment with different sensors and control units.
Partners activities and responsibilities	
Partner owner of the device	Gorenje Velenje
Partner in charge of the data	Gorenje Velenje

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collection (if different)	
Partner in charge of the data analysis (if different)	Roboteh, ADV
Partner in charge of the data storage (if different)	Gorenje Velenje
WPs and tasks	WP2, WP3, WP4
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include: • **machine-related information such as serial number.** • **production related information such as production site, tool/appliance or components appliances.** Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format – program SAP and PIS (MES) system but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's and product current state and to predict future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the eReports or WEB.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms. (WEB applications)

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Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at Gorenje during the project duration or lifespan of appliances.

DS.Gorenje.02.WHITE ENAMELLING LINE	
Data Identification	
Data set description	White enamelling line with 3 main processes: spraying booth, furnace and process parameter traceability. Data is stored by PLC monitoring units of individual subsystems of the line.
Source (e.g. which device?)	Equipment for identification of parts (f.e.camera) is envisaged to identify different semi-finished products in the process at different locations of the production process. On-line measurement of air temperature and relative humidity at different locations, measuring the applied thickness of the enamel powder layer on semi-finished products and measuring the speed of the enamel conveyor is envisaged.
Partners activities and responsibilities	
Partner owner of the device	Gorenje Mora
Partner in charge of the data collection (if different)	Gorenje Mora
Partner in charge of the data analysis (if different)	ADV
Partner in charge of the data storage (if different)	Gorenje Mora
WPs and tasks	WP2, WP3, WP4
Standards	
Info about metadata (Production and storage dates, places) and	Indicative metadata will include:

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documentation?	• **machine-related information such as serial number.** • **production related information such as production quantities of parts, records of enamel thickness)** • **environmental data (temperature, humidity,…)** Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format – program SAP and PIS (MES) system but can usually be exported to Excel. Depending on the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data, keeping history. Environmental data will be used for simulations or process parameters. In addition, the data can be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	If possible we prefer NO access to our local data
Data sharing, re-use and distribution (How?)	No sharing data
Embargo periods (if any)	
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	Data will be stored on MORA servers

3.8 Advanticsys-Tecnalia-CTCR

DS.ADV-CTCR-TECNALIA.01.FORMING_MACHINE_FOR_REAR_PARTS	
Data Identification	
Data set description	Data that is generated and stored during the forming operation of the rear parts of

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	the shoes.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	ADV, CTCR, TECNALIA
Partner in charge of the data collection (if different)	ADV, CTCR, TECNALIA, FLUCHOS
Partner in charge of the data analysis (if different)	ADV, CTCR, TECNALIA
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several kilobytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM)

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	Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

DS.ADV-CTCR-TECNALIA.02.FORMING_MACHINE_FOR_REAR_PARTS_ROTOSTIR	
Data Identification	
Data set description	Data that is generated and stored during the forming operation of the rear parts of the shoes in the machine called ROTOSTIR.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	ADV, CTCR, TECNALIA
Partner in charge of the data collection (if different)	ADV, CTCR, TECNALIA, FLUCHOS
Partner in charge of the data analysis (if different)	ADV, CTCR, TECNALIA
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated	The data is stored in proprietary format,

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volume of data	but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Kilobytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

DS.ADV-CTCR-TECNALIA.03.CUTTING_MACHINE	
Data Identification	
Data set description	Data that is generated and stored during the cutting operation of the components for the upper part of the footwear.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	ADV, CTCR, TECNALIA
Partner in charge of the data	ADV, CTCR, TECNALIA, FLUCHOS

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collection (if different)	
Partner in charge of the data analysis (if different)	ADV, CTCR, TECNALIA
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Kilobytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	

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Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

3.9 Fluchos

DS.FLUCHOS.01.FORMING_MACHINE_FOR_REAR_PARTS	
Data Identification	
Data set description	Data that is generated and stored during the forming operation of the rear parts of the shoes.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	FLUCHOS
Partner in charge of the data collection (if different)	FLUCHOS
Partner in charge of the data analysis (if different)	CTCR, TECNALIA, ADV
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several kilobytes per day.
Data exploitation and sharing	

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Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

DS.FLUCHOS.02.FORMING_MACHINE_FOR_REAR_PARTS_ROTOSTIR	
Data Identification	
Data set description	Data that is generated and stored during the forming operation of the rear parts of the shoes in the machine called ROTOSTIR.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	FLUCHOS
Partner in charge of the data collection (if different)	FLUCHOS
Partner in charge of the data analysis (if different)	CTCR, TEC, ADV
Partner in charge of the data storage (if different)	FLUCHOS

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WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Kilobytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

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DS.FLUCHOS.03.CUTTING_MACHINE	
Data Identification	
Data set description	Data that is generated and stored during the cutting operation of the components for the upper part of the footwear.
Source (e.g. which device?)	Rear parts forming machine including the different sensors attached.
Partners activities and responsibilities	
Partner owner of the device	FLUCHOS
Partner in charge of the data collection (if different)	FLUCHOS
Partner in charge of the data analysis (if different)	CTCR, TEC, ADV
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP3 and WP4.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Kilobytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	The data will be used for analysing production data in order to estimate the machine's current state and to predict the machine's future behaviour. To do so, degradation models will be developed based on the data. In addition, the data

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	will partially be used for visualization.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Prognostic and Health Management (PHM) Toolkit.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored at FLUCHOS and CTCR during the project duration.

3.10 Scuola Universitaria Professionale della Svizzera Italiana

3.10.1 Data sets related to Task 2.5

DS.SUPSI.01.FailuresHighLevelData_Gorenje	
Data Identification	
Data set description	Demonstration scenario data related to failure occurrences, labour hours spent on maintenance, number of breakdowns, operational time, OEE, etc.
Source (e.g. which device?)	Use-cases' Equipment and machines
Partners activities and responsibilities	
Partner owner of the device	Gorenje
Partner in charge of the data collection (if different)	Gorenje
Partner in charge of the data analysis (if different)	SUPSI

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Partner in charge of the data storage (if different)	Gorenje
WPs and tasks	The data will be collected within activities of WP2 and the analysis will be carried out within task 2.5.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	To design, develop and validate a methodology/tool to support companies in structuring and perform a high-level analysis of the state and life expectancy of the machines in the company, providing preliminary insight into the most meaningful approaches to maintenance execution.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Reliability Analysis Tool.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

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DS.SUPSI.02.FailuresHighLevelData_FLUCHOS	
Data Identification	
Data set description	Demonstration scenario data related to failure occurrences, labour hours spent on maintenance, number of breakdowns, operational time, OEE, etc.
Source (e.g. which device?)	Use-cases' Equipment and machines
Partners activities and responsibilities	
Partner owner of the device	FLUCHOS
Partner in charge of the data collection (if different)	FLUCHOS
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP2 and the analysis will be carried out within task 2.5.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	To design, develop and validate a methodology/tool to support companies in structuring and perform a high-level analysis of the state and life expectancy of the machines in the company, providing

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	preliminary insight into the most meaningful approaches to maintenance execution.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Reliability Analysis Tool.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.03.FailuresHighLevelData_Podium	
Data Identification	
Data set description	Demonstration scenario data related to failure occurrences, labour hours spent on maintenance, number of breakdowns, operational time, OEE, etc.
Source (e.g. which device?)	Use-cases' Equipment and machines
Partners activities and responsibilities	
Partner owner of the device	Podium
Partner in charge of the data collection (if different)	Podium
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	Podium
WPs and tasks	The data will be collected within activities of WP2 and the analysis will be carried out within task 2.5.

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Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	To design, develop and validate a methodology/tool to support companies in structuring and perform a high-level analysis of the state and life expectancy of the machines in the company, providing preliminary insight into the most meaningful approaches to maintenance execution.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Reliability Analysis Tool.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.04.FailuresHighLevelData_Zorluteks	
Data Identification	
Data set description	Data related to failure occurrences, labour hours spent on maintenance, number of

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	breakdowns, operational time, OEE, etc.
Source (e.g. which device?)	Use-cases' Equipment and machines
Partners activities and responsibilities	
Partner owner of the device	Zorluteks
Partner in charge of the data collection (if different)	Zorluteks
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	Zorluteks
WPs and tasks	The data will be collected within activities of WP2 and the analysis will be carried out within task 2.5.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	To design, develop and validate a methodology/tool to support companies in structuring and perform a high-level analysis of the state and life expectancy of the machines in the company, providing preliminary insight into the most meaningful approaches to maintenance execution.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM

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the Commission Services) / Public	Reliability Analysis Tool.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.05.FailuresHighLevelData_HWH	
Data Identification	
Data set description	Demonstration scenario data related to failure occurrences, labour hours spent on maintenance, number of breakdowns, operational time, OEE, etc.
Source (e.g. which device?)	Use-cases' Equipment and machines
Partners activities and responsibilities	
Partner owner of the device	HWH
Partner in charge of the data collection (if different)	HWH
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	HWH
WPs and tasks	The data will be collected within activities of WP2 and the analysis will be carried out within task 2.5.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include a) machine-related information such as serial number and b) production related information such as production site or charge ID. Data will properly be documented.

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Standards, Format, Estimated volume of data	The data is stored in proprietary format, but can usually exported to Excel. Depending on the machine and the production volume, the volume is estimated to several Megabytes per day.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	To design, develop and validate a methodology/tool to support companies in structuring and perform a high-level analysis of the state and life expectancy of the machines in the company, providing preliminary insight into the most meaningful approaches to maintenance execution.
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only. Anonymized and consolidated data can be provided to the public via the RECLAIM Reliability Analysis Tool.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

3.10.2 Data sets related to Task 7.3

DS.SUPSI.06.LCAData_Gorenje	
Data Identification	
Data set description	Raw materials, auxiliary materials, other natural resources, energy (in its various forms), waste, products, co-products, emissions (air, water and soil)
Source (e.g. which device?)	Use-cases' Equipment and machines, MRP, ERP, energy and waste bills; Ecoinvent

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	database
Partners activities and responsibilities	
Partner owner of the device	Gorenje
Partner in charge of the data collection (if different)	Gorenje
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	Gorenje
WPs and tasks	The data will be collected within activities of WP5 and 7 and the analysis will be carried out within task 7.3.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include production dates. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is exported to Excel. The volume is estimated to several Megabytes.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	Real-time assessment of the sustainability performances and generation of sustainability oriented use scenarios
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

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DS.SUPSI.07.LCAData_FLUCHOS	
Data Identification	
Data set description	Raw materials, auxiliary materials, other natural resources, energy (in its various forms), waste, products, co-products, emissions (air, water and soil)
Source (e.g. which device?)	Use-cases' Equipment and machines, MRP, ERP, energy and waste bills; Ecoinvent database
Partners activities and responsibilities	
Partner owner of the device	FLUCHOS
Partner in charge of the data collection (if different)	FLUCHOS
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	FLUCHOS
WPs and tasks	The data will be collected within activities of WP5 and 7 and the analysis will be carried out within task 7.3.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include production dates. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is exported to Excel. The volume is estimated to several Megabytes.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	Real-time assessment of the sustainability performances and generation of sustainability oriented use scenarios
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only.

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Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.08.LCAData_Podium	
Data Identification	
Data set description	Raw materials, auxiliary materials, other natural resources, energy (in its various forms), waste, products, co-products, emissions (air, water and soil)
Source (e.g. which device?)	Use-cases' Equipment and machines, MRP, ERP, energy and waste bills; Ecoinvent database
Partners activities and responsibilities	
Partner owner of the device	Podium
Partner in charge of the data collection (if different)	Podium
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	Podium
WPs and tasks	The data will be collected within activities of WP5 and 7 and the analysis will be carried out within task 7.3.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include production dates. Data will properly be documented.

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Standards, Format, Estimated volume of data	The data is exported to Excel. The volume is estimated to several Megabytes.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	Real-time assessment of the sustainability performances and generation of sustainability oriented use scenarios
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.09.LCAData_Zorluteks	
Data Identification	
Data set description	Raw materials, auxiliary materials, other natural resources, energy (in its various forms), waste, products, co-products, emissions (air, water and soil)
Source (e.g. which device?)	Use-cases' Equipment and machines, MRP, ERP, energy and waste bills; Ecoinvent database
Partners activities and responsibilities	
Partner owner of the device	Zorluteks
Partner in charge of the data collection (if different)	Zorluteks
Partner in charge of the data analysis (if different)	SUPSI

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Partner in charge of the data storage (if different)	Zorluteks
WPs and tasks	The data will be collected within activities of WP5 and 7 and the analysis will be carried out within task 7.3.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include production dates. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is exported to Excel. The volume is estimated to several Megabytes.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	Real-time assessment of the sustainability performances and generation of sustainability oriented use scenarios
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

DS.SUPSI.10.LCAData_HWH	
Data Identification	
Data set description	Raw materials, auxiliary materials, other natural resources, energy (in its various forms), waste, products, co-products, emissions (air, water and soil)
Source (e.g. which device?)	Use-cases' Equipment and machines, MRP, ERP, energy and waste bills; Ecoinvent

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	database
Partners activities and responsibilities	
Partner owner of the device	HWH
Partner in charge of the data collection (if different)	HWH
Partner in charge of the data analysis (if different)	SUPSI
Partner in charge of the data storage (if different)	HWH
WPs and tasks	The data will be collected within activities of WP5 and 7 and the analysis will be carried out within task 7.3.
Standards	
Info about metadata (Production and storage dates, places) and documentation?	Indicative metadata will include production dates. Data will properly be documented.
Standards, Format, Estimated volume of data	The data is exported to Excel. The volume is estimated to several Megabytes.
Data exploitation and sharing	
Data exploitation (purpose/use of the data analysis)	Real-time assessment of the sustainability performances and generation of sustainability oriented use scenarios
Data access policy / Dissemination level (Confidential, only for members of the Consortium and the Commission Services) / Public	Full access to the data sets will be given to the members of the consortium only.
Data sharing, re-use and distribution (How?)	The data will be shared via the RECLAIM repository and the respective data communication mechanisms.
Embargo periods (if any)	None
Archiving and preservation (including storage and backup)	
Data storage (including backup): where? For how long?	The data will be stored in the project repository during the project duration.

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4 Conclusion

This report describes the RECLAIM Data Management Plan in its first version. Herein, and the data sets identified until project month 6 are illustrated. Up to now, 30 data sets reported by 9 project partners are available. IPR related activities with respect to data management have already been started. Those activities will be continued within Task T8.2 “Management of IPR”.

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