



Initial Data Management Plan

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	VIF, MAGNA, ROBS, CTAG, BOSCH, CLE, SIRO, UZT, POLITICO, TOGG	Each partner provided information about the data they will generate and, if appropriate, which data they will re-use in the project.

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Change History

Version	Date	Name/Organisation	Description
1	2024-05-17	VUB	Table of Contents, basic deliverable outline
1.1	2024-05-24	VUB	First draft for partner input
1.2	2024-06-07	VUB	Draft for review, includes input from partners
1.3	2024-06-25	VUB	Minor updates after review from RBOS and BOSCH
Final	2024-06-27	VUB	Final version for submission

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1 Executive Summary

EFFEREST targets a decisive leap forward in the novel use of data to achieve energy efficient electric vehicle (EV) designs, matching enhanced user acceptance with efficient vehicle operation. Significant improvements will be gained by leveraging knowledge from real fleet behaviour. Users will benefit from personalised data and the always-available option to select the vehicle performance type; in this way, users will perceive that individualised eco-functionality sufficiently fulfils normal daily-use requirements and will be motivated to save energy even over longer periods of regular usage. EFFEREST will generate and collect various data types to meet these objectives.

This deliverable has been created using the Horizon Europe Data Management Plan (DMP) template [1], with the aim to describe the data that will be generated and how the collected data will be managed both during and after the project is completed.

The EFFEREST consortium is committed to the FAIR principles set by the European Commission. The purpose of the FAIR principles is, in part, to make project data accessible and reusable to the maximum. Section 2 explains how project data will be made FAIR.

A data management plan is unique in that it is a living document. As the project evolves, results will take form, and discussions about data management will follow. To this end, this deliverable will be updated, at minimum, in M18 and a Final Data Management Plan will be submitted in M36.

VUB is the primary author of this deliverable, but all consortium members have provided input in the form of describing the data they will generate as well as any data that they may re-use.

Keywords: Data management plan, FAIR, findable, accessible, interoperable, reusable, data preservation

2 EFFEREST Data Management Plan

Table 2-1. Data Summary

Issues to be addressed	EFFEREST DMP
Will you re-use any existing data and what will you re-use it for? State the reasons if re-use of any existing data has been considered but discarded.	Please refer to section 0, Data Generated by Partners.
What types and formats of data will the project generate or re-use?	Please refer to section 0, Data Generated by Partners.
What is the purpose of the data generation or re-use and its relation to the objectives of the project?	Data collected from the baseline components and controllers will be used for, but not limited to benchmarking, OVPP testing, and vehicle test suite.
What is the expected size of the data that you intend to generate or re-use?	Please refer to section 0, Data Generated by Partners.
What is the origin/provenance of the data, either generated or re-used?	Please refer to section 0, Data Generated by Partners.
To whom might your data be useful ('data utility'), outside your project?	Stakeholders external to the project may find the data useful for related research activities.

Table 2-2: FAIR Data

DMP Component	Issues to be addressed	EFFEREST DMP
Making data findable, metadata incl. provisions	Will data be identified by a persistent identifier?	Yes. Data will be stored in an open or restricted repository, as appropriate; the data will obtain a DOI. All researchers in the project are expected to have an ORCID account; ORCID will uniquely identify data creators. Finally, the consortium will always refer data to the grant project identifier.
	Will rich metadata be provided to allow discovery? What metadata will be created? What disciplinary or general standards will be followed? In case metadata standards do not exist in your discipline, please outline what type of metadata will be created and how.	Rich metadata will be provided to allow discovery. EFFEREST will use the standards listed below. <ul style="list-style-type: none"> • ISO/IEC JTC 1/SC 32 - Data management and interchange; • ISO 9001:2008 Quality management systems; • And ISO 27001:2013 - Information Security Management Systems, which are commonly used for automotive engineering projects
	Will search keywords be provided in the metadata to optimize the possibility for	Search keywords will be provided in the metadata to optimize the possibility for discovery and potential re-use.

DMP Component	Issues to be addressed	EFFEREST DMP
	discovery and then potential re-use?	
	Will metadata be offered in such a way that it can be harvested and indexed?	Yes.
Making data accessible - repository	Will the data be deposited in a trusted repository?	<p>Open access data will be deposited into the Zenodo online repository.</p> <p>In the unlikely case Zenodo suffers from a failure, or shuts down, other trusted repositories have been identified as contingency plans. Depending on the size of the data that needs to be migrated, Harvard Dataverse or IEEE DataPort are legitimate options where data may be uploaded for free (upper limits of free data apply and vary based on repository).</p>
	Have you explored appropriate arrangements with the identified repository where your data will be deposited?	Yes. Zenodo’s online repository follows FAIR principles, including Accessibility [2].
	Does the repository ensure that the data is assigned an identifier? Will the repository resolve the identifier to a digital object?	Yes, Zenodo ensures that the data will be assigned a digital object identifier (DOI).
Making data accessible – Data	Will all data be made openly available? If certain datasets cannot be shared (or need to be shared under restricted access conditions), explain why, clearly separating legal and contractual reasons from intentional restrictions. Note that in multi-beneficiary projects it is also possible for specific beneficiaries to keep their data closed if opening their data goes against their legitimate interests or other constraints as per the Grant	<p>Not all data from the EFFEREST project will be made openly available. Some datasets will be shared under restricted access while others will remain closed. The openness of datasets is defined in section 0, Data Generated by Partners. If a dataset is restricted or closed, reasons are provided.</p>

DMP Component	Issues to be addressed	EFFEREST DMP
	Agreement [3].	
	If an embargo is applied to give time to publish or seek protection of the intellectual property (e.g. patents), specify why and how long this will apply, bearing in mind that research data should be made available as soon as possible.	Reasons for embargo are provided in section 0, Data Generated by Partners. The timing of any embargo will be defined in a future version of this DMP.
	Will the data be accessible through a free and standardized access protocol?	For that that is openly available, licenses under which the data will be available will be listed in the final version of the DMP. For data that is under restricted access, data use agreements will be drawn up when upon approval of access to the restricted data. These data use agreements will be made by the beneficiary who created the data.
	If there are restrictions on use, how will access be provided to the data, both during and after the end of the project?	Access to restricted data is at the discretion of the beneficiary who created the data.
	How will the identity of the person accessing the data be ascertained?	Access to restricted data, and how to ascertain the identity of the person requesting access to the data, is at the discretion of the beneficiary who created the data.
	Is there a need for a data access committee (e.g. to evaluate/approve access requests to personal/sensitive data)?	A data access committee is not foreseen. Should a committee become necessary, it will be described in a future version of the DMP.
Making data – accessible – Metadata	Will metadata be made openly available and licenced under a public domain dedication CC0, as per the Grant Agreement [3]? If not, please clarify why. Will metadata contain information to enable the user to access the data?	EFFEREST will adopt different license types for the metadata, based on the IP rights of the data creator and confidentiality requirements. A license for using project data for research and commercial use will be granted to the project participants, whereas free-access data will be available with licenses limiting their use to research purposes. If metadata may not be made openly available, they will be listed in the final version of the DMP.

DMP Component	Issues to be addressed	EFFEREST DMP
	<p>How long will the data remain available and findable? Will metadata be guaranteed to remain available after data is no longer available?</p>	<p>Open data will be uploaded to Zenodo. Zenodo retains data and metadata for the lifetime of the repository. Now, CERN has defined the current lifetime as at least 20 years¹.</p> <p>All other data should be requestable for a minimum of 36 months after the completion of the project, following the project's Consortium Agreement [4]</p>
	<p>Will documentation or reference about any software be needed to access or read the data be included? Will it be possible to include the relevant software (e.g. in open source code)?</p>	<p>If documentation or reference about any software is needed to access or read the data, it will be included. Documentation will be provided in widely available and used software.</p>
<p>Making data Interoperable</p>	<p>What data and metadata vocabularies, standards, formats or methodologies will you follow to make your data interoperable to allow data exchange and re-use within and across disciplines? Will you follow community-endorsed interoperability best practices? Which ones?</p>	<p>EFFEREST will use the standards listed below.</p> <ul style="list-style-type: none"> • ISO/IEC JTC 1/SC 32 - Data management and interchange; • ISO 9001:2008 Quality management systems; • And ISO 27001:2013 - Information Security Management Systems
	<p>In case it is unavoidable that you use uncommon or generate project specific ontologies or vocabularies, will you provide mappings to more commonly used ontologies? Will you openly publish the generated ontologies or vocabularies to allow reusing, refining or extending them?</p>	<p>In case uncommon or project specific ontologies or vocabularies are created, they will be published on the project website and the consortium members will, to the best of their abilities, provide mappings to more commonly used ontologies or vocabularies.</p>
	<p>Will your data include qualified references to other data (e.g. other data from your project, or datasets from previous research)?</p>	<p>In case data includes qualified references to other data, the DOI of a dataset or the project grant number will be added to any publications.</p>
<p>Increase data Re-</p>	<p>How will you provide documentation needed to</p>	<p>If documentation is needed to validate data analysis and facilitate data re-use,</p>

¹ <https://about.zenodo.org/principles/>

DMP Component	Issues to be addressed	EFFEREST DMP
use	validate data analysis and facilitate data re-use (e.g. readme files with information on methodology, codebooks, data cleaning, analyses, variable definitions, units of measurement, etc.)?	it will be in the form of readme files, codebooks, units of measurement, etc.
	Will your data be made freely available in the public domain to permit the widest re-use possible? Will your data be licensed using standard reuse licenses, in line with the obligations set out in the Grant Agreement [3]?	EFFEREST will adopt different license types for the data, based on the IP rights of the data creator and confidentiality requirements. A license for using project data for research and commercial use will be granted to the project participants, whereas free-access data will be available with licenses limiting their use to research purposes.
	Will the data produced in the project be useable by third parties, in particular after the end of the project?	Data produced in the project will be useable by third parties after the end of the project, but not all data. Section 0, Data Generated by Partners, outlines which data will be openly available.
	Will the provenance of the data be thoroughly documented using the appropriate standards?	Yes. EFFEREST will follow relevant ISO standards (ISO/IEC JTC 1/SC 32 - Data management and interchange, ISO 26324:2012 - DOI (Digital Object Identifier) System) to ensure data quality and interoperability across different domains.
	Describe all relevant data quality assurance processes.	Quality assurance processes are described in D1.1, Quality Assurance, Risk Management, and Project Management Plan.
	Further to the FAIR principles, DMPs should also address research outputs other than data, and should carefully consider aspects related to the allocation of resources, data security and ethical aspects.	For data security, sensitive data will be transmitted via OneDrive, utilizing end-to-end encryption for secure transfer. Additionally, the data will be archived in a RAR file, which will be password-protected using AES-256 encryption to ensure robust protection against unauthorized access.

Table 2-3: Other Research Outputs

Issues to be addressed	EFFEREST DMP
In addition to the management of data, beneficiaries should also consider and plan for the management of other research outputs that may be generated or re-used	Each partner has budgeted approximately .25 PMs per year for preparing, documenting, and preserving data.

Issues to be addressed	EFFEREST DMP
<p>throughout their projects. Such outputs can be either digital (e.g. software, workflows, protocols, models, etc.) or physical (e.g. new materials, antibodies, reagents, samples, etc.).</p>	
<p>Beneficiaries should consider which of the questions pertaining to FAIR data above, can apply to the management of other research outputs, and should strive to provide sufficient detail on how their research outputs will be managed and shared, or made available for re-use, in line with the FAIR principles.</p>	<p>EFFEREST beneficiaries follow the maxim that “data should be as open as possible and as closed as necessary.” Other research outputs will be treated in line with FAIR principles unless there are conflicts with a beneficiary’s legitimate interests.</p>

Table 2-4: Allocation of Resources

Issues to be addressed	EFFEREST DMP
<p>What will the costs be for making data or other research outputs FAIR in your project (e.g. direct and indirect costs related to storage, archiving, re-use, security, etc.)?</p>	<p>Costs vary by beneficiary.</p>
<p>How will these be covered? Note that costs related to research data/output management are eligible as part of the Horizon Europe grant (if compliant with the Grant Agreement [3]conditions)</p>	<p>The cost of making data FAIR is limited to the person-months (PMs) for preparing, documenting, and preserving the data, and is estimated to be ~0.25 PMs per year for each partner.</p>
<p>Who will be responsible for data management in your project?</p>	<p>At the global level, the EFFEREST project coordinator is responsible for the supervision of data curation for all work packages. Data preservation will be organized at the beneficiary level, where project data is stored on in-house servers. Work package leaders are responsible for the continuous upload of WP data to the project SharePoint. CTAG is responsible for coordinating the upload of open access data to Zenodo. VUB is responsible for Task 1.3 and deliverables D1.3, D1.5. VIF is responsible for the set up and maintenance of the project SharePoint</p>
<p>How will long term preservation be ensured? Discuss the necessary resources to accomplish this (costs and potential value, who decides and how, what data will be kept and for how long)?</p>	<p>Long term preservation is ensured in different ways depending on the openness of the dataset. Openly available data will be stored on the Zenodo online repository which will remain in</p>

Issues to be addressed	EFFEREST DMP
	<p>the repository for the lifetime of the repository (a minimum of 20 years).</p> <p>Restricted, embargoed, or closed data will be preserved by the beneficiary on their own servers for a minimum of 36 months.</p>

Table 2-5: Data Security

Issues to be addressed	EFFEREST DMP
<p>What provisions are or will be in place for data security (including data recovery as well as secure storage/archiving and transfer of sensitive data)?</p>	<p>The project SharePoint is secure with individual logins and passwords and 2-factor authentication.</p> <p>Each beneficiary is responsible for the security of personal data and is required to follow GDPR regulations.</p> <p>At the beneficiary level, CLEPA, confirms no sensitive data are produced or stored offline. The local network is private and safe, protected by a reliable cybersecurity service. No sensitive data is shared internally by email or other means of communication.</p> <p>At CTAG the data server is secure with individual logins and passwords.</p>
<p>Will the data be safely stored in trusted repositories for long term preservation and curation?</p>	<p>Open data will be stored in the Zenodo online repository.</p>

Table 2-6: Ethics

Issues to be addressed	EFFEREST DMP
<p>Are there, or could there be, any ethics or legal issues that can have an impact on data sharing? These can also be discussed in the context of the ethics review. If relevant, include references to ethics deliverables and ethics chapter in the Description of the Action (DoA) [3].</p>	<p>Part B, section 4 of the Grant Agreement [3] provides an overview of the ethics self-assessment the project partners have performed.</p> <p>Furthermore, the Consortium Agreement [4] outlines the legal aspects of intellectual property rights, copyrights, and exploitation.</p>
<p>Will informed consent for data sharing and long-term preservation be included in questionnaires dealing with personal data?</p>	<p>Yes.</p>

Table 2-7: Other Issues

Issues to be addressed	EFFEREST DMP
<p>Do you, or will you, make use of other national/funder/sectorial/departmental procedures for data management? If yes, which ones (please list and briefly describe them)?</p>	<p>No partners foresee the use of other procedures for data management. Any changes in procedure will be updated in a future version of the DMP.</p>

3 Data Generated by Partners

During the execution of the EFFEREST project consortium partners will create different types of data, which can be categorized into data relating to the performance evaluation of the HUC, novel HVAC arrangements, associated controllers, simulation, and experimental results on EVs, test rigs, and OVPP. Additional data categories include processed data, specifications and requirements, simulation/CAD models, and program codes embedded in the test setups and controllers.

The tables below outline the data that each partner expects to generate as well as important details of that data. If a partner plans to re-use existing data, these are also listed and detailed. In future versions of the DMP these tables will be updated.

3.1 VIF

VIF will reuse existing data.

Table 3-1: VIF Re-used existing data.

Re-used Existing Data	Thermal system components data	DRIVE.LAB thermal model	
Data Type	Specifications Requirements	Simulation/CAD models	Please select an option
Short description (1-2 sentences)	component specifications for 1D modelling	CFD simulation model and thermal characterization of the ViF driving simulator "DriveLAB"	
Format	Excel data	OpenFOAM and Excel data	
Origin/Provenance of Data	measured at ViF facilities in course of a previous project	Developed and measured at ViF	
Size	Megabyte range	Gigabyte range	Please select an option

VIF will collect and generate data in EFFEREST.

Table 3-2: VIF data to be generated and collected.

Data Name	User study		
Data Type	Simulation, experimental results EVs, test rig, OVPP	Please select an option	Please select an option
Short description (1-2 sentences)	Participant data from user study on HMI solutions for automated climate control (SACC)		
Format	time series data in .csv and mean values for subjective measures		
Metadata			
Expected Size	Gigabyte range	Please select an option	Please select an option
Expected storage location	In house server of beneficiary	Please select an option	Please select an option
What level of access will this data have	Closed or restricted to project partners	Please select an option	Please select an option

during the project?			
What will happen to this data after the project is over?	the data will be closed	Please select an option	Please select an option
If the data will be restricted, closed or embargoed after the project – why?	Participant data cannot be shared as privacy of participants needs to be ensured. In addition low usefulness to share as data is very specific to the studied HMI solutions.		

3.2 MAGNA

MAGNA will not re-use existing data.

MAGNA will collect and generate data in EFFEREST.

Table 3-3: MAGNA data to be generated and collected.

Data Name	Benchmark/Testing	System development	1D Simulation - Natural refrigerants
Data Type	Simulation, experimental results EVs,t	Novel HVAC arrangements	Simulation, experimental results EVs,t
Short description (1-2 sentences)	Measurement data of T2.2 benchmarking, T3.3/T4.3 validation and T6.2 Demonstrator vehicle	Reports on novel VTM layouts and HVAC concepts	Simulation models, simulation results and reports on them
Format	.mf4/.blf/.pdf/.pptx	.pdf/.pptx/.scs/.hmdb/.m/.mat	.pdf/.pptx/.scs/.hmdb/.m/.mat
Metadata	measurement data	N/A	N/A
Expected Size	Gigabyte range	Megabyte range	Megabyte range
Expected storage location	In house server of beneficiary	In house server of beneficiary	In house server of beneficiary
What level of access will this data have during the project?	shared with project partners to perform	shared with project partners to perform	shared with project partners to perform
What will happen to this data after the project is over?	the data will be closed	the data will be closed	the data will be closed

If the data will be restricted, closed or embargoed after the project – why?	IP Protection	IP Protection	IP Protection
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3.3 RBOS

RBOS will reuse existing data.

Table 3-4: RBOS Re-used existing data.

Re-used Existing Data	Control software	Control Software
Data Type	Program codes embed in setups and controllers	Program codes embed in setups and controllers
Short description (1-2 sentences)	Algorithms for predicted thermal control, including parameter sets	SW-Code and algorithms for battery preconditioning
Format	Matlab Simulink files	Matlab Simulink files
Origin/Provenance of Data	Bosch	Bosch
Size	Megabyte range	Megabyte range

RBOS will collect and generate data in EFFEREST.

Table 3-5: RBOS data to be generated and collected.

Data Name	Evaluation data predicted thermal control	Battery preconditioning
Data Type	Performance evaluation of HUC	Simulation, experimental results EVs, test rig, OVPP
Short description (1-2 sentences)	Measurement data from simulation and tests on test-bench for evaluation of the predicted thermal control feature.	Measurement data from tests on test-bench or vehicle
Format	*.mf4, excel table, measurement data	*.mf4, excel table, measurement data
Metadata	measurement data	measurement data
Expected Size	Megabyte range	Megabyte range
Expected storage location	In house server of beneficiary	In house server of beneficiary
What level of access will this data have during the project?	shared with project partners to perform work	shared with project partners to perform work
What will happen to this data	the data will be closed	the data will be closed

after the project is over?		
If the data will be restricted, closed or embargoed after the project – why?	IP protection	IP protection

3.4 CTAG

CTAG will not re-use existing data.

CTAG will collect and generate data in EFFEREST.

Table 3-6: CTAG data to be generated and collected.

Data Name	Testing result data	Reports and documentation	Dissemination documents
Data Type	Simulation, experimental results EVs,t	Processed data	Simulation, experimental results EVs,t
Short description (1-2 sentences)	Experimental result data	Internal reports and confidential project deliverables	Public project deliverables and Research articles (journals)
Format	excel, CSV and txt files	pdf, word, powerpoint and excel files	pdf, word and power point documents
Metadata	no	no	no
Expected Size	Megabyte range	Megabyte range	Megabyte range
Expected storage location	In house server of beneficiary	In house server of beneficiary	Open access respository, like Zenodo
What level of access will this data have during the project?	shared with project partners to perform	shared with project partners to pe	open access to the general public
What will happen to this data after the project is over?	data will have restricted access	data will have restricted access	data will be openly available
If the data will be restricte	Because this is how it has been defined in the GA and there is commercial interest	Because this is how it has been defined in the GA and there is commercial interest	no

d, closed or embargoed after the project – why?			
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3.5 VUB

VUB will not re-use existing data.

VUB will collect and generate data in EFFEREST.

Table 3-7: VUB data to be generated and collected.

Data Name	Powertrain data	Simulation Data	Adaptive digital twin model
Data Type	Simulation, experimental results EVs,te	Simulation/CAD models	Program codes embed in setups and contro
Short description (1-2 sentences)	Dataset from OVPP	Vehicle simulation model	AI-driven Digital Twin Model
Format	.mat	.mat	.mat/JSON
Metadata	Voltage, current, torque, speed, motor temperature, inverter temperature, coolant temperature and coolant flow rate	All vehicle relevant data (electrical, mechanical, thermal and hydraulic)	Control relevant data (electrical, mechanical, thermal and hyduralic)
Expected Size	Gigabyte range	Megabyte range	Megabyte range
Expected storage location	Cloud	Cloud	Cloud
What level of access will this data have during the project?	shared with project partners to perform	open access to the general public	open access to the general public
What will happen to this data after the project is over?	data will have restricted access	data will be openly available	data will be openly available
If the data will be restricted, closed or embargoed after the project – why?	This testrig data has confidential IP of VUB		

3.6 BOSCH

BOSCH will reuse existing data.

Table 3-8: BOSCH Re-used existing data.

Re-used Existing Data	Vehicle usage data
Data Type	Processed data
Short description (1-2 sentences)	Existing vehicle usage data from various sources will be acquired and used to be combined to a comprehensive vehicle usage.
Format	Text / Excel

Origin/Provenance of Data	vehicle usage data from fleet management and service providers, mobility surveys, weather databases
Size	Megabyte range

BOSCH will collect and generate data in EFFEREST.

Table 3-9: BOSCH data to be generated and collected.

Data Name	Vehicle, user-centric control strategy, cloud and comfort requirements	Real Driving Usage Pattern Analysis
Data Type	Specifications Requirements	Processed data
Short description (1-2 sentences)	The relevant automotive requirements and specifications for EFFEREST will be collected by the responsible partners for the domains powertrain, thermal control, comfort and cloud based control strategy, as these domains are in main scope of EFFEREST.	An intelligent combination and enrichment of existing vehicle usage data with additional data sources will provide a comprehensive description of distinct vehicle usage profiles over a longer period of time. This allows a user-centric engineering for the technical solutions within EFFEREST. Newly generated vehicle usage data within the project work of EFFEREST will be used where applicable.
Format	Report	Report and machine readable textfiles
Metadata	Engineering Requirements	Vehicle Usage Profiles
Expected Size	Megabyte range	Megabyte range
Expected storage location	Project SharePoint	Project SharePoint
What level of access will this data have during the project?	shared with project partners to perform work	shared with project partners to perform work
What will happen to this data after the project is over?	the data will be closed	the data will be closed
If the data will be restricted, closed or embargoed after the project – why?	Some input datasources' licences are restricted to use within the EFFEREST consortium only and IP protection.	Some input data sources' licences are restricted to use within the EFFEREST consortium only and IP protection.

3.7 CLE

CLE will not re-use existing data.

CLE will not collect and generate data in EFFEREST.

3.8 SIRO

SIRO will not re-use existing data.

SIRO will collect and generate data in EFFEREST.

Table 3-10: SIRO data to be generated and collected.

Data Name		
Data Type	Simulation, experimental results EVs, test	Processed data
		Performance evaluation of HUC

Short description (1-2 sentences)	Creating a 3Rc equivalent circuit model and integrating it with a 3D flow simulation	simulation results will be optimized with test data	provides a comprehensive approach to evaluate and optimize battery performance.
Format	.xls	.p	.m
Metadata	Internal Resistance, capacitance, Open Circuit Voltage, temperature, Current, power (watt), joule, material properties (specific heat capacity, thermal conductivity, etc.).	Performance outputs (voltage curves, temperature, etc.)	efficiency rate
Expected Size	Megabyte range	Megabyte range	Megabyte range
Expected storage location	Project SharePoint	Project SharePoint	Project SharePoint
What level of access will this data have during the project?	Closed or restricted to project partners	shared with project partners to perform	shared with project partners to perform
What will happen to this data after the project is over?	the data will be closed	data will have restricted access	data will have restricted access
If the data will be restricted, closed or embargoed after the project – why?	Internal development as company specific data	will be discussed	will be discussed

3.9 UZT

UZT will reuse existing data.

Table 3-11: UZT Re-used existing data.

Re-used Existing Data			
Data Type	Processed data	Specifications Requirements	Simulation, experimental results EVs, test rig, OVPP
Short description (1-2 sentences)	Processed data will be reused to optimize human driver digital twin	Specifications and requirements related to target performances will be used to optimise/calibrate	Collected data from TOGG vehicles and obtained fleet data will be used in driver behavioral model for training

		controllers in T5.2 Powertrain system control	
Format	text, *.csv	text	*.mf4, *.csv, *.blf
Origin/Provenance of Data	Other digital twins, sub-models	WP2	Collected data in consortium
Size	Gigabyte range	Megabyte range	Terbyte range

UZT will collect and generate data in EFFEREST.

Table 3-12: UZT data to be generated and collected.

Data Name	
Data Type	Simulation/CAD models
Short description (1-2 sentences)	Driver behavioral model
Format	*.slx
Metadata	driver classification, driving score, time/date
Expected Size	Megabyte range
Expected storage location	In house server of beneficiary
What level of access will this data have during the project?	shared with project partners to perform work
What will happen to this data after the project is over?	the data will be closed
If the data will be restricted, closed or embargoed after the project why?	Developed model is restricted to use within the EFFEREST consortium only. UZT has commercial exploitation plans by created model.

3.10 PoliTo

PoliTo will not re-use existing data.

PoliTo will collect and generate data in EFFEREST.

Table 3-13: PoliTo data to be generated and collected.

Data Name			
Data Type	Associated controllers	Performance evaluation of HUC	Program codes embed in setups and controllers

Short description (1-2 sentences)	embedded huc powertrain/thermal controller	performance indicators and simulation results	controllers formulation nnmpc, training neural network
Format	.slx,.m	.slx,.m	.m
Metadata			
Expected Size	Megabyte range	Megabyte range	Megabyte range
Expected storage location	Project SharePoint	Project SharePoint	In house server of beneficiary
What level of access will this data have during the project?	shared with project partners	shared with project partners to perform work	Closed or restricted to project partners
What will happen to this data after the project is over?	data will have restricted access	data will be openly available	the data will be closed
If the data will be restricted, closed or embargoed after the project – why?			Internal development as company specific data

3.11 TOGG

TOGG will reuse existing data.

Table 3-14: TOGG Re-used existing data.

Re-used Existing Data	In-cabin CAD Data
Data Type	Simulation/CAD models
Short description (1-2 sentences)	Inner Volume of the Vehicle
Format	.stp
Origin/Provenance of Data	Vehicle CAD Data
Size	Gigabyte range

TOGG will not collect and generate data in EFFEREST.

4 Conclusion

The purpose of this document is to describe the data that will be generated and how the collected data will be managed both during and after the project is completed. This document will serve as a reference to all consortium members during the lifetime of the project.

This is a living document that will be updated, at minimum, in M18, and a final version of the data management plan will be submitted in M36.

5 Abbreviations

Term	Definition
AI	Artificial Intelligence
CA	Consortium Agreement
CAD	Computer-aided design
CERN	The European Organization for Nuclear Research
DEC	Websites, Patent Filings, Videos
DEM	Demonstrator, Pilot, Prototype
DMP	Data Management Plan
DOI	Digital Object Identifier
EFFEREST	Efficient User-Centric Energy Management Systems for Optimized Electric Vehicles
FAIR	Findable, Accessible, Interoperable, Reusable
GA	Grant Agreement
GDPR	General Data Protection Regulation
HUC	Holistic User-centric energy management system Controller
OVPP	Open Vehicle Powertrain Platform
PU	Public
R	Document, Report
SEN	Sensitive
WP	Work Package

6 References

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