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Project Title:

Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles

Acronym: **EMPOWER**

Grant Agreement No.: **101096028**

Topic: **Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (2ZERO)**

Topic identifier: **HORIZON-CL5-2022-D5-01-08**

Type of action: **Innovation Action (IA)**

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Deliverable Title	Project handbook	
Deliverable Date	2023-03	
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Dissemination level	Public	
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D9.1: Project Handbook (PU)

Publishable Executive Summary

To guarantee the quality of the outcomes of the EMPOWER project, the deliverable D9.1 deals with a Project handbook, in which the definition of procedures and standards, identification of the responsibilities for ensuring that these procedures and standards are followed, and the monitoring and control of results are implemented.

Hence D9.1 is the document specifying the quality assurance procedures for the EMPOWER project. It ensures that all results and deliverables of the project are at a high-quality standard.

The project handbook, which should govern all partners and consortiums actions, must be accepted by the EMPOWER consortium. Once accepted, D9.1 becomes an official project document which is open for review processes through the entire EMPOWER project duration (e.g. during each general assembly meeting the procedures will be reviewed and updated if required).

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D9.1: Project Handbook (PU)

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Abbreviations and Nomenclature

Table 1: List of Abbreviations and Nomenclature.

Symbol or Shortname	Description
PC	Project Coordinator
QC	Quality Corrdinator
WP	Workpackage
EC	European Commission
GA	General Assembly

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D9.1: Project Handbook (PU)

1. Introduction

1.1. The EMPOWER project

The objective of EMPOWER is to deliver two modular and flexible Zero-Emission Heavy-Duty Vehicles (ZE HDVs) of Vehicle Energy Consumption Calculation Tool (VECTO) group 9 with a Gross Vehicle Weight (GVW) of at least 40 tons, both at Technology Readiness Level (TRL) 8. One of the trucks will be a Fuel Cell Electric Vehicle (FCEV) suitable for long-haul operation conditions with a maximum unrefuelled range of 750 km. The second one, being a Battery Electric Vehicle (BEV), will be designed for regional distribution mission profiles with a maximum unrecharged driving range of 400 km.

The ambition of EMPOWER involves the development, implementation, and demonstration of these vehicles at TRL 8, guaranteeing a maximum load capacity of not less than 90 % compared to conventional trucks of the same vehicle class and making them ready to enter the market in 2029 with equal Total Cost of Operation (TCO) as 2020 engine-based solutions, assuming a production volume of more than 10,000 vehicles/year.

The aim of deliverable D9.1 is to assure that the abovementioned objective is met and that the results and deliverables of the project are of high quality, fulfilling the specifications set in the description of work and the grant agreement. Hence D9.1 is the document defining the quality assurance procedures for the EMPOWER project. To become an official project document, the project handbook must be accepted by the EMPOWER consortium. Furthermore, the EMPOWER project handbook is a dynamic document that is continually edited and updated e.g. during each general assembly meeting.

1.2. Scope of the project handbook

The project handbook encompasses the description of the quality assurance procedures as well as document templates and is addressed to the project partners for the successful development of the EMPOWER project, and also to the European Commission evaluators for their evaluation of the project. Hence the project handbook will guide all consortium partners, which are responsible for preparing and amending deliverables (e.g. WP leader, Task leader), the steering committee and the project and quality coordinator (which is responsible for reviewing completed or updated parts of the project handbook and to carry out its disclaiming of liability) and any responsible consortium partner for approving works to be done by third parties, in order to complete deliverables.

1.3. Description of the process

As an integral part of management planning the project handbook has to be prepared just in the early project phase in order to demonstrate and provide the consortium with the assurance guidelines that e.g. contract requirements and conditions have been revised or if the quality system is appropriate in the meaning of an effective quality planning. A precondition for the preparation of the project handbook is, that the project and quality coordinator has reviewed all requirements needed to setup the quality assurance procedures and to determine all necessary activities which have to be arranged in time. To ensure the applicability of the project handbook at any time, the project and quality coordinator should perform quality reviews throughout the duration of the EMPOWER project and shall ensure that the project handbook is available to all involved partners and that the requirements regarding the quality assurance are met.

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2. Organisational management structure

2.1. General Assembly

The General Assembly (GA) is the decision-making body of the consortium. Decisions can refer to all administrative and technical questions of the project. The GA consist of at least one member of each consortium partner.

General assembly													
AIT	IVECO	FPT	IFPEN	POLITO	LT	VIL	CID	CTE	GLO	BRE	IIT	ALFI	FMF

Figure 1: Members of the General Assembly

2.2. Project Coordinator

AIT is acting as Project Coordinator (PC) for this Project. The PC is the legal entity acting as intermediary between the consortium and the Funding Authority. The coordinator shall, in addition to its responsibilities as a Party, perform the tasks assigned to it as described in the Grant Agreement and the Consortium Agreement.

2.3. Governing bodies and responsibilities

Quality Coordinator

AIT is acting also as Quality Coordinator (QC). The QC monitors the progress of the EMPOWER project and reports any significant deviations in terms of results, quality, timing, and resources spent to the consortium. Furthermore, the QC will supervise that all project outcomes (like material used in presentations, conferences, and workshops) will have the same high level of quality.

Work Package Leader

The Work Package (WP) Leaders are responsible for the achievement of the related WP task objectives. Their role is to coordinate all efforts of their related WP and to monitor the progress by checking status and task quality. The leading beneficiaries for each WP are defined in the GA and listed here as follows:

- **WP1** Platform identification, technical specification of modular HDV, and digital-twin: **IVECO**
- **WP2** Integrated e-axle and fuel cell system: **FPT**
- **WP3** Modular energy storages (battery and hydrogen tank): **FMF**
- **WP4** Modular and flexible vehicle architecture: **AIT**
- **WP5** Innovative HVI, V2G communication, fleet management, and infrastructure: **IFPEN**
- **WP6** Integration of components into vehicle demonstrators: **IVECO**
- **WP7** Demonstration of FCEV and BEV use cases: **GLO**
- **WP8** Dissemination, communication, and exploitation: **AIT**
- **WP9** Project management: **AIT**

Task leaders

The role and responsibility of task leaders is similar to the WP leaders but at the Task level (e.g. monitoring and coordinating the technical progress of the task). The task leaders report to the WP leader. In case of arising issues, the WP leader discusses the issue with the task leader and comes up with the proposed solution.

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3. Quality Assurance – Reporting

3.1. Internal 6-month progress reporting

To ensure the quality and compliance to project schedule of each WP, each WP leader is requested to report the technical and financial status of their own WP in written form to the PC every six month. To achieve a consistent flow of information, this internal status reporting shall be sent to the PC latest two weeks after the end of the progress reporting period.

The following information shall be included in the technical section:

- Performed work items and achieved results
- Status of each task
- Status of each deliverable
- Status of each milestone
- Gap analysis to original project plan
- Assessment of compliance to original project timeline
- If applicable, countermeasures to regain compliance to original timeline
- Outlook on work items and targets of next reporting period

The financial content shall be reported by using an Excel template. This sheet needs to be submitted along with the technical progress information.

The templates to report the technical and financial status can be obtained from the project network storage repository ([EMPOWER\admin\templates](#)), see also Chapter 4.2 and 7.2.

3.2. Progress report to the EC

At the end of each Reporting Period, progress reports have to be given to the EC. According to the Grant Agreement, delivery dates are Month 18, Month 36 and Month 48. The reports need to include the technical and financial progress. Reports will be created by the coordinator with the support of all WP leaders. The internal 2-month progress reports shall be used as basis for these documents.

To achieve a timely delivery of the reports to the EC, the following timeline shall be followed:

- 4 weeks before deadline: Coordinator requests contents from WP leaders by email
- Deadline: WP leaders receive feedback from respective Task leaders
- 2 weeks after deadline: WP leaders are providing report draft to Coordinator
- 3 weeks after deadline: Coordinator sends out feedback on report draft
- 4 weeks after deadline: Final report is submitted to Coordinator

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4. Quality Assurance – Creation of Deliverables

4.1. Dissemination levels

In this project, Deliverables can fall under two different confidentiality levels:

- Sensitive: Only accessible for consortium members (including the Commission Services)
- Public

Each Deliverable has to be allocated to one Dissemination category. An overview of the respective Level ranking of each Deliverables can be found in Appendix A.2 - List of Deliverables.

4.2. Templates

The official templates for Deliverables can be obtained from the project network storage repository ([EMPOWER\admin\templates](#)), see also Chapter 7.2. These templates have to be used by all project partners and for all Deliverable Reports. Each document has to fulfil the file naming rules. The detailed rules are listed in Chapter 7.1.

4.3. Reviewing and Approval

To assure deliverables with good quality, the Deliverable Reports need to be reviewed and checked before submission. This review shall be done by the PC and previously appointed reviewers.

The following timeline shall be followed for the submission of deliverables:

- 6 weeks before deadline: Coordinator requests contents from WP leaders by email
- 4 weeks before deadline: Deliverable draft is sent to coordinator for initial check
- 3 weeks before deadline: Revised Deliverable is sent to Reviewer by the coordinator
- 1 weeks before deadline: Final version is submitted to coordinator

Reviewers will be nominated for each Deliverable separately. The selection of Reviewers needs to follow these fundamental guidelines:

- Not involved in document creation
- Not part of coordinator

Reviewers for each Deliverable will be proposed by the PC. The GA needs to be consulted for final approval of the Reviewers.

A list with nominated reviewers for each Deliverable can be found in the Appendix A.3 – List of Reviewers of this document.

5. External communications and publications

5.1. Logo

Figure 2 shows the official EMPOWER project logo. This logo has been approved by the GA during the Kick-off meeting of EMPOWER. On external and internal publications, the use of the official project logo is required. The project logo is located on the project network storage repository ([EMPOWER\admin\logo](#)). Dependent on the colour of the background, the logo is available in different colours corresponding to the EMPOWER colour scheme.



Figure 2: The created EMPOWER logo

5.2. Templates

To ensure that presented contents are clearly connected to EMPOWER and to create a recognition factor of the project itself, the usage of the official project presentation template is required for all official project presentations. This is especially the case for external presentations of project contents. The template document can be found on the project network storage repository ([EMPOWER\admin\templates](#)).

5.3. Rules

On all project publications, the funding by the European Union needs to be acknowledged. This includes the usage of the EMPOWER project logo and the EU flag in sufficiently high resolution.



Figure 3 : Logo showing the funding of the European Union

For the acknowledgement itself, the following sentence is mandatory:

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Additionally, dissemination documents need to bear the following disclaimer:

Funded by the European Union. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Climate, Infrastructure and Environment Executive Agency (CINEA). Neither the European Union nor the granting authority can be held responsible for them.

These paragraphs are already included in the official project templates. Removing or modifying these sections is not permitted.

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5.4. Procedures

Before executing any formal publication or external communication, the PC needs to be informed in advance. The PC will finally confirm the content and visual appearance. To ensure an orderly procedure, the following deadlines shall be met:

- 6 weeks before submission: Giving notification to Coordinator
- 2 weeks before submission: Summarising feedback and approval from Project Consortium

The PC regards the publication or communication as authorised, if no objection from the Project Consortium was received within the feedback period.

However, the publishing party needs to receive a written confirmation of that approval before any material can be submitted or communicated.

6. Communication and meeting management

6.1. Communication

Standard working communication shall be done via phone or email.

Important communication and exchange of information (e.g. to provide information on the release of new deliverables or to notify the project partners about the availability of new information and events or to circulate meeting agendas, etc.) should be done via email to enable tracking and follow-up. Therefore, a mailing list for the partners is available and will be maintained and kept up to date by the PC to ensure that no one will be excluded from important information. All addresses of the project partners can be found on the project network storage ([EMPOWER\admin\contacts](#)). To enable the coordinator to maintain an overview of the entire project, the coordinator contacts shall be included in all technical and administrative e-mails in copy (cc:).

6.2. Monthly web meeting

Web meetings are a powerful tool for keeping frequently in touch with partners via MS Teams web conferences. Monthly web meetings will be organized by the PC. Regardless of these regular meetings, spontaneous web meetings with short notice are possible at any time in order to save resources (e.g. travelling budget and time).

For web meetings generally the same principles are valid as for physical meetings. This means, all required documents must be shared with the attendees before the meeting. This includes an agenda and a participant list.

6.3. Face-to-Face meeting

The main pillar for communication in the project will be the Face-to-Face meetings. In order to foster the personal exchange of project participant across all WP, these meetings will be held on a regular basis. Two types of meetings shall be held in the course of the project

- General Assembly meetings
- WP specific technical meetings

The following target dates have been set for the GA meetings

- M2 **1. GA Kick-Off**
- M9 **2. GA meeting**
- M13 **3. GA meeting**
- M21 **4. GA meeting**
- M25 **5. GA meeting**
- M33 **6. GA meeting**
- M37 **7. GA meeting**
- M48 **8. GA final**

At each meeting, the location and type (Face-to-Face or online) of the following meeting shall be discussed and decided by the GA.

7. Electronic data management

7.1. Document creation

To ensure compatibility and open access to all electronic project documents, common standards on data formats need to be defined. Electronic project documents shall be created using the Microsoft Office software suite or compatible products. The following data formats need to be used

- Text documents: Microsoft Office Word Document .docx
- Presentations Microsoft Office PowerPoint Presentation .pptx
- Spreadsheets Microsoft Office Excel Workbook .xlsx

All documents shall use the English language.

In order to manage the created number of documents, common rules for file names need to be followed. File names need to comply with the following rule:

- **EMPOWER_Index_DocName_Date_Version_Partner.ext**

with the following meanings:

- Index Number of WP or deliverable e.g. WP1 or D1.4
- DocName Short name suitable for content identification e.g. KickOff
- Date Date of document creation e.g. 2023-02-17
- Version Version number e.g. V1.1
- Partner Acronym of document responsible partner e.g. AIT
- ext File extension e.g. pptx

7.2. Data transfer and storage

Presentations and general documents shall be transmitted using the project network storage. This system is administered and maintained by the PC. After invitation by the PC, the storage location can be accessed via the following URL:

<https://aitonline.sharepoint.com/:f:/r/sites/EMPOWER/Shared%20Documents/EMPOWER>

8. Conclusions

Procedures and standards to be used in the EMPOWER project to guarantee the quality of the outcomes were formulated within D9.1. In order to ensure that the quality assurance is alive during the entire project duration, the definition of the responsibilities occurred in D9.1 for ensuring that the mentioned procedures and standards are followed according to their designation in the GA and CA. Hence an evaluation and quality assurance framework has been accomplished. D9.1 provides the necessary measures and actions in case of deviations in order to ensure the high quality level of the project, of all deliverables, of the entire documentation and to ensure the full compliance with all contractually fixed requirements.

9. Acknowledgment

European Union's HORIZON EUROPE research and innovation programme

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Project Partners:

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

Participant No*	Participant short name	Participant organisation name	Country
1 Coordinator	AIT	AIT Austrian Institute of Technology GmbH	AT
2	IVECO	IVECO SPA	IT
3	FPT	FPT Industrial SPA	IT
4	IFPEN	IFP Énergies nouvelles	FR
5	POLITO	Politecnico di Torino	IT
6	LT	Lead Tech SRL	IT
7	VIL	Villinger GmbH	AT
8	CID	Fundación CIDETEC	ES
9	CTE	CT Engineering GmbH	AT
10	GLO	GRUBER Logistics S.p.A.	IT
11	BRE	BREMBO SPA	IT
12	IIT	Istituto per Innovazioni Tecnologiche Bolzano S.c.a.r.l.	IT
13	ALFI	Air Liquide	FR
14	FMF	FPT Motorenforschung AG	CH

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Appendix A - Quality Assurance

A.1 Reporting Templates

Slides Template

[EMPOWER\admin\templates\EMPOWER_template-slides_16x9.pptx](#)

 EMPOWER	 Funded by the European Union
<h1>Thank you!</h1>	
<p>Presenter: <First Name> <LAST NAME> (<Company>)</p>	
	
<p>02.03.2023</p>	<p>This project has received funding from the European Union's HORIZON EUROPE research and innovation programme under grant agreement No. 101096028. The content of this publication is the sole responsibility of the Consortium partners listed herein and does not necessarily represent the view of the European Commission or its services.</p>
<p>6</p>	

 EMPOWER	 Funded by the European Union
<h1>EMPOWER ... Meeting</h1>	
<p>e.g. WP1: Platform identification, technical specification of modular HDV, and digital-twin</p>	
<p>Presenter: <First Name> <LAST NAME> (<Company>)</p>	
	
<p>02.03.2023</p>	<p>This project has received funding from the European Union's HORIZON EUROPE research and innovation programme under grant agreement No. 101096028. The content of this publication is the sole responsibility of the Consortium partners listed herein and does not necessarily represent the view of the European Commission or its services.</p>
<p>1</p>	

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WP1 – Platform identification, technical specification of modular HDV, and digital-twin

Objectives

- Add text here

02.03.2023

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WP1 – Platform identification, technical specification of modular HDV, and digital-twin

Tasks

- Add text here

02.03.2023

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 EMPOWER	 Funded by the European Union
<p>WPX – Workpackage title Subtitle</p> <ul style="list-style-type: none">▪ Text	
02.03.2023	This project has received funding from the European Union's HORIZON EUROPE research and innovation programme under grant agreement No. 101096028. The content of this publication is the sole responsibility of the Consortium partners listed herein and does not necessarily represent the view of the European Commission or its services. 4

 EMPOWER	 Funded by the European Union
<p>WPX – Workpackage title Subtitle</p> <ul style="list-style-type: none">▪ Text▪ Text	
02.03.2023	This project has received funding from the European Union's HORIZON EUROPE research and innovation programme under grant agreement No. 101096028. The content of this publication is the sole responsibility of the Consortium partners listed herein and does not necessarily represent the view of the European Commission or its services. 5

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Thank you!

Presenter:

<First Name> <LAST NAME> (<Company>)



02.03.2023

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6-months Financial Report Template

[EMPOWER\admin\templates\EMPOWER_template-6monthsFinancialReport.xlsx](#)

EMPOWER 6 Month Financial Reporting																
Partner Nr.																
Partner Name																
Reporting Period																
	Amount Planned					Amount Spent										
WP #	PMs	Personnel Costs	Material	Travel Costs	Indirect Costs	PMs	Personnel Costs	Material	Travel Costs	Indirect Costs	Remaining PMs	Remaining Budget	Explanation			
1												0				
2												0				
3												0				
4												0				
5												0				
6												0				
7												0				
8												0				
9												0				

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6-months Technical Report Template

[EMPOWER\admin\templates\EMPOWER_template-6monthsTechnicalReport.docx](#)

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Project Title:
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Acronym: EMPOWER

Grant Agreement No.: 101096028

Topic: Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (ZZERO)

Topic identifier: HORIZON-CLS-2022-D5-01-08

Type of action: Innovation Action (IA)

6 Month Progress Report #X		EMPOWER WP X, TASK Y	
Workpackage	Title		
WP Leader	Name Surname (Affiliation)		
Task	Title		
Task Leader	Name Surname (Affiliation)		
Written by	Name Surname (Affiliation)	yyyy-mm-dd	
	Name Surname (Affiliation)	yyyy-mm-dd	
	Name Surname (Affiliation)	yyyy-mm-dd	
	Name Surname (Affiliation)	yyyy-mm-dd	

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6 Month Progress Report #X
EMPOWER Page 1 Version 2023-03-02

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One Page Progress Report #X

Overall Status of WP X	Text
Overall Status of Task Y	Text
Activities and Progress	Text
Institutional & Project Partner Issues	Text
Planned Outputs and Deliverables	Text
Outcomes and Lessons Learned	Text
Next Steps	Text

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6 Month Progress Report #X
EMPOWER Page 2 Version 2023-03-02

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Status of Deliverables

Del.	WP	Deliverable Name	Type	Dissemination level	Due date (in months)	Actual/Forecast Delivery Date	Status / Justification of Delay
D9.1	WP9	Project handbook	Report	PU	3		

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6 Month Progress Report #X
EMPOWER Page 3 Version 2023-03-02

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Status of Milestones

Milestone #	WP #	Milestone name	Due date (in months)	Actual/Forecast Delivery Date	Status / Justification of Delay
MS1	WPS	Dissemination strategy, communication- and data management plan established	6		



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6 Month Progress Report #X
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Deliverables Template

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Project Title:
Eco-operated, Modular, highly efficient, and flexible multi-POWERtrain for long-haul heavy-duty vehicles

Acronym: EMPOWER

Grant Agreement No.: 101096028



Topic: Modular multi-powertrain zero-emission systems for HDV (BEV and FCEV) for efficient and economic operation (ZZERO)

Topic identifier: HORIZON-CLS-2022-DS-01-08

Type of action: Innovation Action (IA)

Deliverable No.	EMPOWER.DX.Y	
Deliverable Title	Title	
Deliverable Date	yyyy-mm	
Deliverable Type	Report	
Dissemination level	Public/Sensitive	
Written by	Name Surname (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
Checked by	Name Surname (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
Approved by	WP Leader (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
	Name Surname (Affiliation)	yyyy-mm-dd
Status	Draft 1.0	

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Publishable Executive Summary

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D9.1: Project Handbook (PU)



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Abbreviations and Nomenclature

Table 1: List of Abbreviations and Nomenclature.

Symbol or Shortname	Description
EV	Electric Vehicle
WP	Work Package
HVAC	Heating, Ventilation and Air Conditioning

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1. Introduction

Write in Times New Roman 11 font size

Worldwide, commercial vehicles are the largest growing contributor to air pollution, fuel consumption, and global warming emissions in the on-road transportation sector [1].
 For example heavy-duty trucks were responsible for using approximately 12 million barrels of oil per day and producing 2.5 billion tons of CO2 per year in 2013 [2].

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2. Second Chapter

Text...

Figure 1: Test figure

Text

Table 2: Sample Table

Text...	Text...

2.1. Sub-Chapter

Text...

Sub-Sub-Chapter

Text...

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3. Third Chapter

Text...

3.1. Sub-Chapter

Text...

Sub-Sub-Chapter

Text...

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4. Conclusions

Text...

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5. Bibliography

[1] S. C. Davis, S. W. Diegel and R. G. Boundy, Transportation Energy Data Book, 2014.
 [2] C. Facanha, K. Blumberg and M. J. "Global transportation energy and climate roadmap," International Council on Clean Transportation.

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6. Acknowledgment

European Union's HORIZON EUROPE research and innovation programme

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Project Partners:

The author(s) would like to thank the partners in the project for their valuable comments on previous drafts and for performing the review.

Participant No*	Participant short name	Participant organisation name	Country
1 Coordinator	AIT	AIT Austrian Institute of Technology GmbH	AT
2	IVECO	IVECO SPA	IT
3	FPT	FPT Industrial SPA	IT
4	IFPEN	IFP Energies nouvelles	FR
5	POLITO	Politecnico di Torino	IT
6	LT	Lead Tech SRL	IT
7	VIL	Villinger GmbH	AT
8	CID	Fundación CIDETEC	ES
9	CTE	CT Engineering GmbH	AT
10	GLO	GRUBER Logistics S.p.A.	IT
11	BRE	BREMBO SPA	IT
12	IIT	Istituto per Innovazioni Tecnologiche Bolzano S.c.a.r.l.	IT
13	ALFI	Air Liquide	FR
14	FMF	FPT Motorenforschung AG	CH

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Appendix A - Quality Assurance

The following questions should be answered by all reviewers (WP Leader, peer reviewer 1, peer reviewer 2 and the technical coordinator) as part of the Quality Assurance Procedure. Questions answered with NO should be motivated. The author will then make an updated version of the Deliverable. When all reviewers have answered all questions with YES, only then the Deliverable can be submitted to the EC.

NOTE: For public documents this Quality Assurance part will be removed before publication.

Question	WP Leader	Peer reviewer 1	Peer reviewer 2	Technical Coordinator
	Name Surname	Name Surname	Name Surname	Dragan SIMIC
1. Do you accept this deliverable as it is?	Yes/No	Yes/No	Yes/No	Yes/No
2. Is the deliverable completely ready (or are any changes required)?	Yes/No	Yes/No	Yes/No	Yes/No
3. Does this deliverable correspond to the DoW?	Yes/No	Yes/No	Yes/No	Yes/No
4. Is the Deliverable in line with the EMPOWER objectives?	Yes/No	Yes/No	Yes/No	Yes/No
a. WP Objectives?	Yes/No	Yes/No	Yes/No	Yes/No
b. Task Objectives?	Yes/No	Yes/No	Yes/No	Yes/No
5. Is the technical quality sufficient?	Yes/No	Yes/No	Yes/No	Yes/No

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A.2 Deliverables and Milestones

List of Deliverables

Deliverable Number	Deliverable Title	WP number	Lead beneficiary	Type	Dissemination level	Due Date (in months)
D1.1	Vehicle specifications, use cases and interim performance assessment	1	1 - AIT	R	SEN	9
D1.2	Digital twin models for HDV application	1	1 - AIT	Other/R	PU	46
D1.3	LCA and TCO assessment of baseline vehicle	1	5 - POLITO	R	PU	12
D2.1	E-axle and associated controls	2	3 - FPT	DEM/R	SEN	22
D2.2	Scalable fuel cell system	2	3 - FPT	DEM/R	PU	22
D2.3	Report on energy conversion systems testing	2	3 - FPT	R	PU	28
D3.1	Battery and BMS	3	8 - CID	DEM/R	SEN	25
D3.2	Hydrogen storage	3	2 - IVECO	DEM/R	PU	22
D3.3	Report on energy storage systems testing	3	14 - FMF	R	PU	28
D4.1	Thermal- and vehicle energy management	4	2 - IVECO	R	PU	25
D4.2	Chassis, cabin and heating, ventilation and air conditioning system	4	1 - AIT	DEM/R	PU	25
D4.3	Low voltage modular E/E architecture, SW platform for high voltage vehicle's systems control and electrified braking system	4	2 - IVECO	DEM/R	SEN	25
D4.4	Report on thermal- and energy management testing	4	2 - IVECO	R	PU	28
D5.1	Report on charging- and hydrogen infrastructure	5	12 - IIT	R	PU	38
D5.2	Vehicle connectivity, V2G communication and eco-routing	5	4 - IFPEN	Other/R	PU	28
D5.3	Integrated HVI solution	5	6 - LT	DEM/R	SEN	37

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D9.1: Project Handbook (PU)

D6.1	Prepared vehicle demonstrator platforms	6	2 - IVECO	DEM/R	PU	28
D6.2	FCEV and BEV demonstrators with integrated components	6	2 - IVECO	DEM/R	PU	33
D6.3	Report on vehicle demonstrator's functionality testing	6	2 - IVECO	R	PU	38
D7.1	Report on LCA and TCO global assessment of demonstrators	7	5 - POLITO	R	PU	45
D7.2	Report on capability and performance evaluation of demonstrators	7	1 - AIT	R	PU	48
D8.1	Dissemination, exploitation (including IPR) and communication plan	8	5 - POLITO	R	PU	6
D8.2	First revision of dissemination, exploitation (including IPR) and communication activities	8	5 - POLITO	R	PU	18
D8.3	Second revision of dissemination, exploitation (including IPR) and communication activities	8	5 - POLITO	R	PU	36
D8.4	Final report on dissemination, exploitation (including IPR) and communication activities	8	5 - POLITO	R	PU	48
D9.1	Project handbook	9	1 - AIT	R	PU	3
D9.2	Data management plan	9	1 - AIT	DMP	PU	6
D9.3	First revision of data management plan	9	1 - AIT	DMP	PU	18
D9.4	Second revision of data management plan	9	1 - AIT	DMP	PU	36
D9.5	Final version of data management plan	9	1 - AIT	DMP	PU	48

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List of Milestones

Milestone number	Milestone title	WP number	Lead beneficiary	Due Date (in months)	Means of verification
MS1	Dissemination strategy, communication- and data management plan established	WP8 WP9	1 - AIT	6	Review and availability check of D8.1, D9.1 and D9.2
MS2	Platform identification finished and improvement potential determined	WP1	1 - AIT	9	Review and availability check of D1.1
MS3	Development of all vehicle components finished	WP2 WP3 WP4	3 - FPT	25	Review and availability check of D2.1, D2.2, D3.1, D3.2, D4.1, D4.2 and D4.3
MS4	Demonstrators ready for integration of developed components and systems	WP2 WP3 WP4 WP6	2 - IVECO	28	Review and availability check of D2.3, D3.3, D4.4 and D6.1
MS5	Demonstrators ready for functionality testing	WP6	2 - IVECO	33	Review and availability check of D6.2
MS6	Demonstrators ready for performance testing and demonstration phase	WP6	2 - IVECO	38	Review and availability check of D6.3
MS7	LCA and TCO global assessment of demonstrators finished	WP7	5 - POLITO	45	Review and availability check of D7.1
MS8	Innovation action of EMPOWER successfully implemented and finalised	WP8	1 - AIT	48	Review and availability check of D7.2

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D9.1: Project Handbook (PU)

A.3 Review Process

List of Reviewers

Deliverable Number	Lead beneficiary	Reviewer 1	Reviewer 2
D1.1	1 - AIT	TBD by GA	TBD by GA
D1.2	1 - AIT	TBD by GA	TBD by GA
D1.3	5 - POLITO	TBD by GA	TBD by GA
D2.1	3 - FPT	TBD by GA	TBD by GA
D2.2	3 - FPT	TBD by GA	TBD by GA
D2.3	3 - FPT	TBD by GA	TBD by GA
D3.1	8 - CID	TBD by GA	TBD by GA
D3.2	2 - IVECO	TBD by GA	TBD by GA
D3.3	14 - FMF	TBD by GA	TBD by GA
D4.1	2 - IVECO	TBD by GA	TBD by GA
D4.2	1 - AIT	TBD by GA	TBD by GA
D4.3	2 - IVECO	TBD by GA	TBD by GA
D4.4	2 - IVECO	TBD by GA	TBD by GA
D5.1	12 - IIT	TBD by GA	TBD by GA
D5.2	4 - IFPEN	TBD by GA	TBD by GA
D5.3	6 - LT	TBD by GA	TBD by GA
D6.1	2 - IVECO	TBD by GA	TBD by GA
D6.2	2 - IVECO	TBD by GA	TBD by GA
D6.3	2 - IVECO	TBD by GA	TBD by GA
D7.1	5 - POLITO	TBD by GA	TBD by GA
D7.2	1 - AIT	TBD by GA	TBD by GA
D8.1	5 - POLITO	TBD by GA	TBD by GA
D8.2	5 - POLITO	TBD by GA	TBD by GA
D8.3	5 - POLITO	TBD by GA	TBD by GA
D8.4	5 - POLITO	TBD by GA	TBD by GA
D9.1	1 - AIT	TBD by GA	TBD by GA
D9.2	1 - AIT	TBD by GA	TBD by GA
D9.3	1 - AIT	TBD by GA	TBD by GA
D9.4	1 - AIT	TBD by GA	TBD by GA
D9.5	1 - AIT	TBD by GA	TBD by GA

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