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Material, Operating strategy and REliability optimisation for
LIFETIME improvements in heavy duty trucks

D1.3 MORELife Website finished

Public

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1 Publishable Executive Summary

This deliverable describes the overview of the MORELife website as a central element of the dissemination activities. The main objective of this deliverable is to present the website structure as well as the main content.

The project website represents beside the social media accounts LinkedIn, Twitter and Research Gate the key information source for our target groups. It describes the main project objectives and visions, the working plan and the work package structure as well as all project related news. Besides, all public deliverables and scientific publications can be easily downloaded from the website. The website is accessible via www.morelife-info.eu.

2 Introduction

The MORELife website is hosted by AVL List GmbH (AVL) and is part of Task 1.3 Exploitation, Data Management, Dissemination tools & materials. The website is used as the primary dissemination channel and includes all information needed to get a good overview of the project. In addition, it includes a section for downloading public deliverables and scientific papers.

The project website was finalized in February 2022 and can be reached under www.morelife-info.eu. The website is linked to our social media channels LinkedIn, Twitter and Research Gate to ensure easy access to all our dissemination channels and to foster collaboration.

3 Project Website

The project website is a living platform, which is regularly updated and modified. The following sections provide an overview of the website structure and show some graphical examples of the presentation of the contents. The project website is used to communicate the project outcomes towards the relevant scientific and industrial communities outside of the consortium as well as towards the general public audience.

The project website is set up in the predefined colours and design of the MORELife project (yellow and orange colours like in the MORELife logo with a decent comb structure in the background). The website is divided into seven sections: Project Info, Objectives, Work Plan, Public Documents, Stakeholders, Contact, which can be reached via the navigation bar on top of the website.

3.1 Main page

The main page (Figure 3-1) provides the most important information about the project. On the top right corner there are our social media plugins LinkedIn and Twitter, which lead directly to the social media channels. As soon as our Research Gate account for MORELife is set up, an Icon for this social media channel will be implemented too. In the future a slider is planned at the main page, showing the latest news with nice pictures of the project progress.

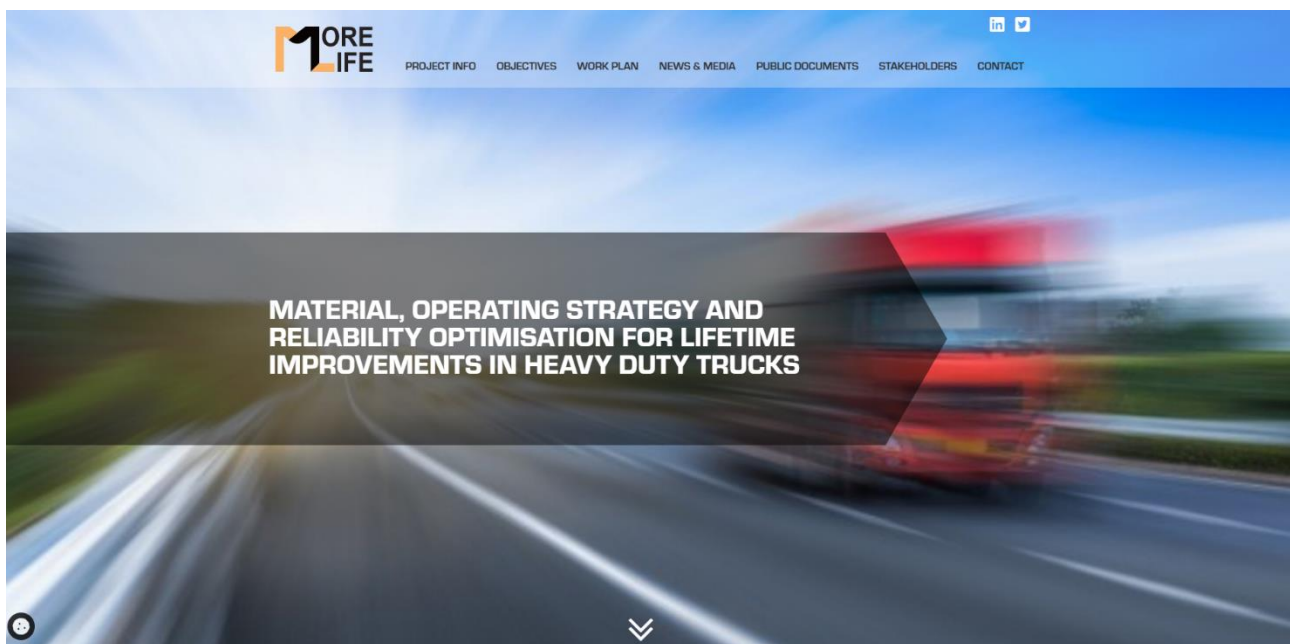


Figure 3-1: Main page of the MORELife website

When scrolling down the overall project information, the objectives and the work plan appear. These sections can also be accessed via the navigation bar on top.

The project info describes the vision of MORELife and the key elements dealt with in this research project and with this provides a clear overview of the project content. Furthermore, the technical innovations within the project are described to give an insight into the highly ambitious technical goals of the project.

For the external audience, this is the most important element of the website. It provides clear explanation of the project basics.

PROJECT INFO



INVESTIGATING LIFE-TIME LIMITATIONS

MORELife will demonstrate improvements of materials and operating strategies to enhance the durability and reliability of fuel cell stacks for heavy duty truck application. The project will reach ambitious goals of power density > 1.2 W/cm² at 0.675 V/cell and PGM loading ≤0.3 g/kW, while achieving system durability of 30,000 h of operation with <10 % performance loss. Degradation issues based on real life application data will be identified. With this, both highly specific accelerated stress tests (ASTs) for the shortened test duration for lifetime verification as well as advanced degradation models will be developed. Thereby, the needed improvements on the material and operation strategy level will be defined. Improved materials will be evaluated on different levels by the partners. Starting on a small scale single cell level and moving up to the full commercial scale short stack level, the project aims to establish a firm mechanistic understanding at the smaller single cell scale that is then successfully understood, evaluated, and proven at the commercial short stack level using both accelerated degradation methods and HD-application relevant environments. After validation of the operating conditions based on the improved materials the results will be fed back into the models to validate the improvements compared to state-of-the-art materials and prove a predicted lifetime of 30,000h.

TECHNICAL INNOVATION

MORELife has a strong dedication to the implementation of novel materials (catalysts and GDLs) into MEAs for heavy-duty application, tackling the critical failure modes observed in real fuel cell powered trucks and buses. Pre-existing and proven models will be used as a tool to predict material lifetimes based on material characteristics and AST output. The improved materials will be evaluated on different levels by the partners. Starting on a small scale single cell level and moving up to the full commercial scale short stack level. After validation of the operating conditions based on the improved materials the results will be fed back into the models to validate the improvements compared to state-of-the-art materials and prove a predicted lifetime of 30,000 h.



Figure 3-2: Project Info of MORELife

3.2 Objectives

This page describes in detail the main five objectives of the project and should give the reader a clear understanding of the ambitious goals of the project. The objectives are nicely graphically presented on the left hand side with further information on the right hand side.



Figure 3-3: Project Objectives

3.3 Work Plan and Work Packages

This section deals with the overall work plan and the work packages in detail. The workplan shows the titles of all Work Packages, work package leaders, which partners are involved in Work Packages and how the different Work Packages are interconnected.



Figure 3-4: Project Work Plan

For further information on the single Work Packages the reader can click on the WPs to receive detailed information on the content of the WP with a nice picture on the right.

WORK PACKAGES

WP1 – PROJECT MANAGEMENT, DISSEMINATION AND EXPLOITATION
✕

This work package includes coordination and management activities as well as dissemination and exploitation tasks. The goal is to provide efficient project structures, to manage resources and results against the defined project plan and to avoid risks. Dissemination helps to promote the project and to bring the results to various stakeholder groups (such as research peers, industry and other commercial actors, professional organizations, policymakers, etc.) in a way to enable them to use the results in their own work. Exploitation explains the use of the results during and after the project end. Therefore, plans for dissemination and exploitation will be created in the course of the project. There will be, in both cases, an initial a final dissemination / exploitation plan prepared by the consortium. These deliverables will summarize the beneficiaries' strategy and concrete actions related to the protection, dissemination, and exploitation of the project results.

Leader: AVL, UL

WP2 - THEORETIC AND MODEL-BASED MECHANISTIC DEGRADATION UNDERSTANDING
+

WP3 - MEA DEVELOPMENT
+

WP4 - PERFORMANCE AND DURABILITY VERIFICATION IN SINGLE CELLS AND STACKS
+

WP5 - OPERATION VALIDATION IN APPLICATION RELEVANT ENVIRONMENT
+

Figure 3-5: Project Work Packages

3.4 News and Media

All MORELife project news are posted in this section. This page is regularly updated and provides information about the current project activities and achievements with the aim to inform the audience about the project status and to gain more attention in the public. Each news entry has a “read more” button leading to a subpage, which provides more detailed information about the news including pictures, etc. It is planned in the near future to link the latest news with the main page to inform the target audience immediately about the latest news and achievements in the project.

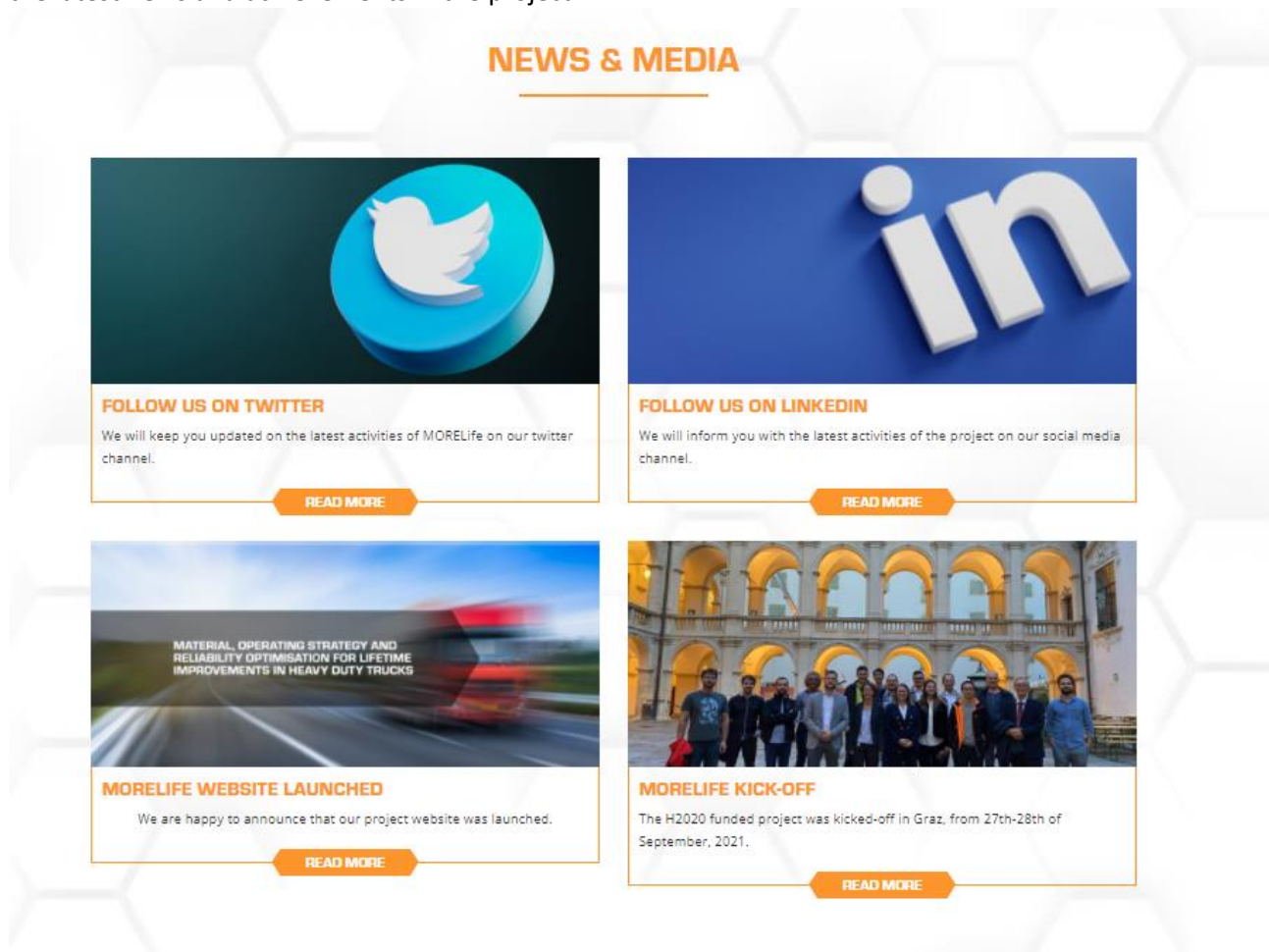


Figure 3-6: News and Media section

3.5 Public Documents

This section contains two sub-pages: Scientific Publications and Public Deliverables.

The Scientific Publication page will provide a table with all papers, books or other peer-reviewed documents which will be published under the sign of the MORELife project. The table will be kept constantly updated as the project begins to deliver results.

The Public Deliverables provide all MORELife deliverables which are declared as public. The whole list of the public deliverables is already there. When a deliverable is submitted to the JU, the pdf will be uploaded on the website and all users can easily access and download it without any registration.



NO.	TITLE	LINK
1	D3.1 Two primary catalyst concepts based on validated technology prepared	
2	D3.2 CCM with two commercial membranes and two catalyst types prepared	
3	D1.3 MORELife Website finished	
4	D1.8 Annual data reporting 1st calendar	
5	D1.9 Annual data reporting 2nd calendar year	
6	D2.2 Development of specific ASTs for new materials selected in WP3	
7	D1.10 Annual data reporting 3rd calendar year	
8	D2.5 Degradation study relevant for HD application and recommendations for materials, degradation mitigation strategies and ADTs	
9	D4.4 Heavy-duty specialised ADT validated	
10	D4.5 MORELife stack validated	
11	D5.1 Report on reference materials in HD application	

Figure 3-7: Public Deliverables

3.6 Stakeholders

In the subpage “Stakeholders”, information about the Consortium and financing organisations is provided. Here all project partners are listed with their logos (Figure 3-8). After clicking on the partner logo, a new window pops up (Figure 3-9) with a detailed description of the partner. Also contact information and a link to the homepage of each respective partner is presented. At the bottom, a map gives an overview about the country origin of each partner.



Figure 3-8: Stakeholders

PROJECT PARTNER



AVL LIST GMBH

AVL is the world's largest independent company for development, simulation and testing in the automotive industry, and in other sectors. As a global technology leader, AVL provides concepts, solutions and methodologies in the fields of e-mobility, ADAS and autonomous driving, vehicle integration, digitalization, virtualization, Big Data, and much more.

COMPANY DESCRIPTION

AVL List GmbH ("AVL") is the world's largest independent company for development, simulation and testing in the automotive industry, and in other sectors. Drawing on its pioneering spirit, the company provides concepts, solutions and methodologies to shape future mobility trends.

As a major contributor to e-mobility, AVL drives innovative and affordable systems to effectively reduce CO2 by applying a multi-energy carrier strategy for all applications - from hybrid to battery electric and fuel cell technologies.

AVL constantly evolves its ecosystem of high-end methodologies and innovative technologies in the area of vehicle development and testing which provides real world solutions to support customers' future mobility ambitions. From the ideation phase to serial production, the company covers future vehicle architectures and platform solutions including the impact of new propulsion systems and energy carriers.

By digitizing the vehicle development with state-of-the-art and highly scalable IT, software and technology platforms, AVL creates new customer solutions in the areas of Big Data, Artificial Intelligence, simulation and embedded systems. In the field of ADAS and autonomous driving, AVL has built comprehensive competences to accelerate the vision of smart and connected mobility.

AVL's passion is innovation. Together with an international network of experts that extends over 26 countries and with 45 Tech- and Engineering Centers worldwide, AVL drives sustainable mobility trends for a greener future. In 2020, the company generated a turnover of 1.7 billion Euros, of which 12% are invested in R&D activities.

ROLE & KEY CONTRIBUTION

Besides being the coordinator of the MORElife project, AVL's focus lies on short stack testing, degradation analysis on stack level and operation validation in application relevant environment.

CONTACT

AVL List GmbH
Hans-List-Platz 1
8020 Graz, Austria

www.avl.com



< SHOW ALL >

Figure 3-9: Partner description – example AVL List GmbH

3.7 Contact

The main contact information of the project coordinator can be found here.

The graphic features a hexagonal pattern background. At the top center, the text "STAY IN TOUCH" is displayed in orange. Below this, on the left, is the AVL logo (a blue square with "AVL" and a cluster of white dots). To the right of the logo, the text "MORELIFE COORDINATION TEAM" is written in orange. Underneath, the contact details for AVL List GmbH are listed: "A-8020 Graz, Hains-List-Platz 1", "www.avl.com", and "johannes.lackner@avl.com". Below the logo, it says "Follow the project:" followed by LinkedIn and Twitter icons. To the right of these icons, the roles "Technical Coordinator: Johannes Lackner" and "Administrative Project Manager: Hermine Pinker" are listed. At the bottom of the graphic is a map of the Graz region with a red location pin in the city center. The map includes labels for various districts and landmarks, and a copyright notice "Lauter | © OpenStreetMap contributors" is visible in the bottom right corner of the map area.

Figure 3-10: Contact information

4 Summary and Conclusion

The MORELife website plays the central role in external dissemination and provides comprehensive information about the project objectives, activities, news, and outcomes. The website is designed very appealing and is structured in a very clear way to give the readers a good and clear understanding of the project's objectives and progress. The website is supported by the social media platforms LinkedIn, Twitter and Research Gate to distribute the project goals, news and results to a broad audience and to raise as much awareness as possible in the public. All dissemination channels have a similar visual design that can immediately be identified as part of the MORELife project. The content of these dissemination platforms is updated on a constant basis by the dissemination leader and the coordinator.

5 Terms, Abbreviations and Definitions

Please add additional terms, abbreviations and definitions here.

MORELife	Material, Operating strategy and REliability optimisation for LIFETIME improvements in heavy duty trucks
CO	Confidential, restricted under conditions set out in Model Grant Agreement - only for members of the consortium (including the JU).
DEC	Websites, patents filing, press & media actions, videos, etc.
DEM	Demonstrator, pilot, prototype, plan designs
HW	Hardware
R	Report
OTHER	Other
PU	Public, fully open, e.g. web
WP	Work Package

Table 5-1: Terms, Abbreviations and Definitions