High Performance Power Electronics Integrations

Project Handbook (incl. QA Plan and Risk Plan)

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1. Executive Summary

The HiPE Project Management Handbook includes the quality and risk management processes within WP1 (Task 1.4). This document establishes guidelines and procedures of the HiPE project to ensure the quality of its outcomes, as well as to identify and mitigate risks in time. The project set-up is outlined in more details and the templates to be used are included. All this will support an efficient and high-quality project execution.

Keywords: Project Handbook, Quality Assurance, Risk Management



2. Introduction

This project handbook is a compilation of processes that the consortium agrees for a smooth project implementation.

The coordinator team (Technical Coordinator and Administrative Coordinator) from VIF leads the Quality and Risks Management (T1.4) within HiPE. It is actively supported by the Strategic Steering Board (SSB) and Technical Steering Board (TSB) and the WP and Task leaders. Together, they aim to ensure a high-quality project execution by establishing adequate procedures and guidelines and identifying and mitigating risks in time.

D1.1 covers the following aspects:

- Project Management Structure
- Communication
- Document Management
- Deliverable Review and Submission Process
- Reporting Process

2.1 Quality Assurance

International cooperation with multiple project partners can present different challenges and obstacles. It is essential to achieve the objectives on time and within the agreed budget, while ensuring the high quality of the results. Therefore, quality assurance is vital to HiPE.

To ensure maximum transparency, templates and guidelines have been produced to ensure that the members of the consortium know where to find documents and receive detailed instructions and support during the different phases of the project. The process to produce the deliverables has been created to ensure the submission of high-quality results. For the reporting, the quality as well as the risks are monitored to ensure that mitigation actions can take place immediately.

During the kick-off meeting, the quality board (led by the quality manager of the project) has been appointed. The quality board defines appropriate reviewers from the consortium for the different deliverables.

2.2 Risk Management

During the proposal phase of the project HiPE, the consortium already identified potential risks that could affect the implementation of the project. As part of the quality and risk management process in WP1, those risks will be monitored and updated during the project lifespan; thus, enabling the consortium to identify and mitigate them in due time.

The project coordinator, alongside with the Strategic Steering Board (SSB) and Technical Steering Board (TSB), will ensure the proper risk management during the project HiPE. Section 8 of this deliverable addresses the internal and external Reporting Process. The WP leaders will report the risk status on monthly basis. In the case that any risk occurs, the consortium and the project officer will be informed immediately about the situation and the taken mitigation measures.



3. Objectives

This deliverable contributes to all HiPE objectives as it outlines the base for the project work and facilitates the monitoring of the quality and risks in the WPs. It forms the base for the executed project work and facilitates that all WP leaders can monitor the quality and risks within their work packages. By doing so, the HiPE consortium will develop a new highly energyefficient, cost-effective, modular, compact and integrated wide bandgap (WBG) power electronics solution for the next generation of battery electric vehicles (BEV) and facilitate a significant market penetration of WBG in the automotive sector.

4. Project Management Structure

This chapter offers a brief overview of the HiPE project management structure (PMS). The section 6 of the Consortium Agreement (CA) describes in detail the responsibilities, rights, and obligations of the PMS [1]. Therefore, the CA should be consulted when it comes to decision-making processes.

4.1 The Project Coordinator (PC)

The **Project Coordinator (PC)** is the legal entity that acts as intermediary between the project parties and the Granting Authority. The Project Coordinator Team of HiPE consists of the Administrative Project Coordinator and the Technical Project Coordinator. The coordinator shall perform the tasks assigned to as described in the Grant Agreement [2] and the Consortium Agreement [1], in addition to its responsibilities as a party. The PC will report any major issues that could jeopardise the successful implementation of HiPE to the Strategic Steering Board, the Technical Steering Board, and the General Assembly (GA). The Project Coordinator is the central contact point for the Funding Authority.

4.2 The Strategic Steering Board (SSB)

The **Strategic Steering Board (SSB)** is the highest strategic body within the consortium appointed by the General Assembly and will have the final responsibility for the project. The SSB will take the final decisions on changes in the implementation plan e.g. major budget and financial matters, substantial revisions in work package content and risk management including mitigation measures. The SSB will follow the rules of the Consortium Agreement (CA) [1].

Any changes will be documented in the Contact List on Share Point under <u>05 Administration\01 contact list</u>, where a filter function to find members of the different boards has been implemented.

4.3 The Technical Steering Board (TSB)

The **Technical Steering Board (TSB)** is a technological-oriented group that contains experts dealing directly with the HIPE technology. The TSB is responsible for the technical and scientific coordination and has the ultimate accountability for the technical project results. This team is managed by the Technical Steering Board leader, represented by the Project Manager, and reports to the HIPE Strategic Steering Board. The tasks of the TSB are detailed in the CA [1].

Any changes will be documented in the Contact List on Share Point under <u>05_Administration\01_contact list</u>, where a filter function to find members of the different boards has been implemented.

4.4 The General Assembly (GA)

The **General Assembly (GA)** is the ultimate decision-making body of the consortium. The General Assembly is composed of one representative of each partner for the purpose of high-level decision-making and will be held twice a year.

- The GA will discuss and decide on overall project status and problems.
- SSB and TSB meetings will be held during the general assembly meetings.

• The GA will be a platform for F2F discussions of the partners.

Typical subjects for GA meetings: project status and progress, review of resource status, major changes in the project program including redistribution of budget, major changes in dissemination and exploitation strategy and cooperation with third parties and related projects.

Decisions of the GA will be taken based on voting and are binding for all partners. Each partner will have one vote, with a decisive vote for the coordinating partner in case of a draw.

The general assembly meetings defined at the kick-off meeting are:

4.5 The Industrial Advisory Board (IAB)

An **Industrial Advisory Board (IAB)** will be appointed and steered by the General Assembly. The IAB shall assist and facilitate the decisions made by the General Assembly. The IAB members shall be allowed to participate in General Assembly meetings upon invitation. However, they do not have any voting rights. Additional information on the IAB is included in the CA [1].

4.6 The Work Package Leaders & Co-Leaders

The Work Package Leaders and their Co-Lead will be responsible for the completion of the WP activities and deliverables on time, within the provided budget and with the highest possible quality. Further, they ensure:

- Coordinating activities within the work package
- Meeting the operational, functional, documentation and data, planning and financial requirements for deliverables according to the contract and EC requirement
- Approving work package deliverables
- Data management within the work package
- Managing and communicating risks within the work package
- Formal and informal reporting on work package progress, quality, and risk status to the project coordinator

The WP leaders will decide upon frequency, duration, and mode of the WP meetings. However, it is expected that there will be a regular status meeting (at least every four weeks) for the duration of the respective WP. It is also important that minutes of the meeting are kept and available to all WP partners on the SharePoint.

4.7 The Task Leaders & Co-Leaders

The Task Leaders and their Co-Lead will be responsible to ensure the delivery of high-quality results for the task and will be responsible for the technical and non-technical decisions on task-level in close alignment with the WP Leader. Additionally, they will oversee the data management within their task.

5. Communication

5.1 Internal Communication

5.1.1 Overall Guidelines

The members of the Consortium will keep the following points in mind whenever sending emails:

- Always include [HiPE] in the subject line of your emails to utilise the filter function of emails.
- Use the contact list provided by the coordinator (<u>Contact List_HiPE.xlsx</u>) to address all relevant contacts.

Communication with the Project Officer (PO): Only the coordinator shall contact the Project Officer, as acting as intermediary between the Granting Authority and project partners.

Please do not write any emails to the granting authorities related to HiPE.

5.1.2 Structure

Communication in the project will be performed via:

- Physical Meetings: e. g.: general assembly meetings that take place twice a year.
- Teleconference (conference calls, online meetings): a regular monthly TEAMs-meeting with the agenda:
 - Newsflash from the work packages by the work package leaders;
 - o free ½-hour discussions on other businesses.

is carried out monthly on Thursday 14:00 – 15:00 (CET)

The MoM of meetings will be stored in pdf-Form on SharePoint in the Folder "03_Meetings".

5.1.3 Meeting Plan

Table 5-1 shows the proposed meeting plan for HiPE. Meetings such as the Kick-Off Meeting, General Assembly or Review Meeting are planned in a hybrid way (face-to-face and online participation) to ensure all partners can attend. Additionally, the cost aspect and the environmental aspect must be kept in mind. Online meetings will be carried out with TEAMs (if not stated otherwise).

Meeting	Date/Frequency	Involved Partners	Mode
Kick-Off Meeting	13. & 14. December 2022	All partners	Hybrid
Strategic Steering Board	Every 8 weeks	SSB Members	Online
Technical Steering Board	Every 8 weeks	STB	Online
General Assembly	At least 1 per year	All partners	F2F/Hybrid

Table 5-1: HiPE Meeting Plan

Industrial Advisory Board	On request	IAB members	F2F/Hybrid
Review Meeting	As defined in [2]	Selected partners	F2F/Hybrid
Monthly Project Meeting	Every 4 weeks, Thursday 14:00 – 15:00 (CET)	All partners	Online
Task-specific workshops	On request	Selected partners	F2F/Hybrid/Online

5.1.4 Minutes of Meeting (MoM)

The notetaker will be assigned before the meeting. The organiser of the meeting must provide the MoM after every meeting. A template has been provided and it covers the following points: Subject, Date and Time, Meeting Organiser, Type of Meeting, Note Taker; Participants, Agenda, Action Points and Notes.

All MoM must include a list of participants. A List of Participants for every day with the signatures will be provided for physical meetings. The organisers of the meeting will keep the original List of Participants and will provide the coordinators with a copy after the meeting. List of Participants must be uploaded to the meetings folder in SharePoint. For online meetings, a screenshot of the participant list and/or a summary of the participants will be provided. The MoM are also required for online meetings and must be uploaded to the meetings folder.

5.1.5 Conflict Escalation Process

As part of the internal communication, a conflict escalation process has been defined. It is outlined in Figure 5-1.

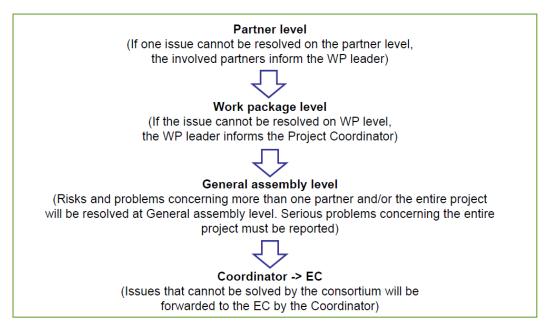


Figure 5-1: HiPE Conflict Escalation Process

5.2 External Communication

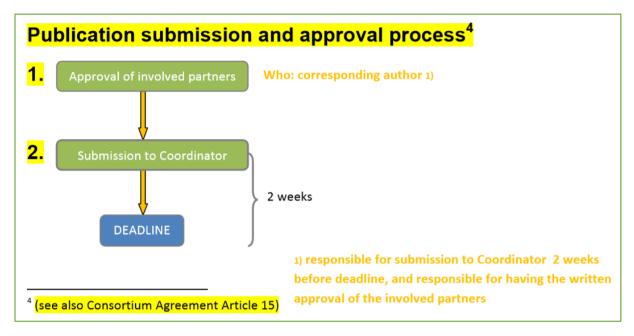
5.2.1 Dissemination and Communication Activities

Partners who wish to contribute to the HiPE dissemination and communication activities should inform the project coordinator and dissemination manager (IESTA). The activities should be aligned with the overall Dissemination and Communication plan of HiPE and must follow the HiPE Project Identity Guidelines. All performed activities must be included in the periodic reports and, if possible, should be mentioned on the project website.

5.2.2 Release and Approval Process for Publications

Before any publication or dissemination activity, the consortium must be informed. The detailed release and approval process for publications is defined in the HiPE CA (Art. 8.4) [1].

The consortium shall be informed at least 45 calendar days before the publication. Any objection to the planned publication shall be made in accordance with the CA by written notice to the coordinator and to Parties proposing the dissemination within 30 calendar days after receipt of the notice. If no objection is made within the time limit, the publication is permitted.



The Publication Submission and Approval Process of HiPE is illustrated in Figure 5-2.

Figure 5-2: HiPE Publication Submission and Approval Process

5.2.3 Horizon Europe Rules for Communication, Dissemination and Visibility

Article 17 of the GA includes specific rules for the communication, dissemination and visibility [2]. Please include the funding acknowledgement (translated into the local languages, if possible):

- For promotion material: "This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101056760."
- For publications: "The research leading to these results/this publication has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101056760."

• For patents: "The work leading to this invention has received funding received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No. 101056760."

In accordance with Article 17.3 of the Grant Agreement, any communication or dissemination activity must include a disclaimer (translated into the local languages, where appropriate) [2]:

"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 CINEA. Neither the European Union nor the granting authority can be held responsible for them."

Additionally, whenever possible the EU emblem should be included:



Figure 5-3: EU Emblem to be used for Dissemination and Communication

Please <u>do not modify the emblem in any way</u>. In case several logos are used (e.g., beneficiaries), the emblem must be displayed at least as clearly and visibly as the other logos.

HiPF



For HiPE, the SharePoint (set up by VIF) is used for the exchange of documents. All partners have access to folders, download/upload documents and edit them simultaneously with other members. The coordinator team can monitor the access to the SharePoint.

6.1 General Guidelines

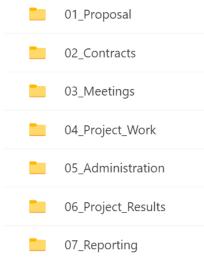
For all documents and presentations, the following points must be considered:

- Spell check (UK English)
- Consistency check (wording, acronyms etc.)
- Update all references (tables, cross references etc.)
- Track changes turned off & no comments etc. left in the document (all points resolved).
- Do not use too many animations.
- Check if the document/presentation is public or confidential.
- Include the Funding Acknowledgement and the Disclaimer.
- Ensure that texts and figures are legible.
- Do not use acronyms without explaining them.
- Use the HiPE templates.
- Stick to the project identity guidelines (colours, fonts, logos etc.).

Please <u>do not share any confidential information</u> with external parties. In case you are unsure, you can always contact the project coordinator. For dissemination and communication activities and publications, more information is provided in Section 5.2 of this deliverable.

6.2 Folder Structure

Figure 6-1 depicts the overview of the document repository. Partners can access all folders and are able to work with the respective documents:





6.3 HiPE Templates

In addition, templates for MoM (Minutes of Meeting), Deliverables and presentations following the HiPE Project Identity (logo, colour, fonts) can be found on SharePoint under <u>05_Administration\02_Templates</u>.

6.4 Naming Conventions for Documents

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Table 6-1: HiPE Naming Conventions
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Document	Naming Convention and Example
Minutes of Meeting	Date_MoM_Title_Organisation_version
	20221213_MoM_Kick_Off_Graz_VIF_v1
	Date_Pres_Title_Organisation_version
Presentation	20221213_Pres_Kick_Off_Graz_VIF_v1
	Deliverable#_Title_Lead_version
Deliverables	D1.1_project handbook_ViF_V1



7. Deliverable Review and Submission Process

Two basic rules apply to all HiPE beneficiaries:

- 1. <u>Do not create your own template variations</u> etc. and follow the processes defined in this project handbook.
- 2. The project coordinator team will upload the deliverable in the EU portal after a formal check. Please <u>do not upload documents directly in the portal.</u>

7.1 Assignment of Reviewers

Every deliverable shall be reviewed by at least **two reviewers** who did not contribute to the deliverable. The deliverable responsible may assign the reviewers. Once assigned, the reviewers must be communicated to the coordinator team.

7.2 Assignment of Deliverable Responsible

The WP Lead and Co-Lead are responsible for appointing the deliverable responsible. The deliverable responsible must be communicated to the coordinator.

7.3 The HiPE Review and Submission Process

To ensure high-quality deliverables for HiPE, a deliverable review process, depicted in Figure 7-1, has been established.

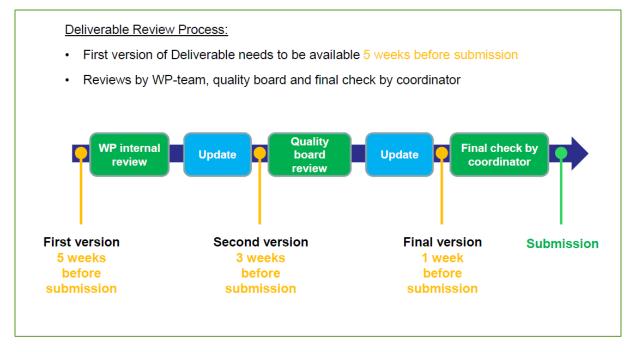


Figure 7-1: HiPE Deliverable Review Process

- **Two months before the submission**, the coordinator sends a reminder to the partner responsible for the deliverable. They will be asked to appoint two reviewers for the review and (if not done yet) start the preparations for the deliverable.
- Five weeks before the submission, the deliverable should be ready for the WP internal review.



- Three weeks before the submission, the deliverable should be updated based on the results of the WP internal review. The second version will be sent to the Quality Board Review.
- **One week before the submission**, the final version should be uploaded to SharePoint. The deliverable responsible will inform the coordinator via email. The coordinator will carry out a formal check.
- At the **submission deadline**, the deliverable is uploaded by the coordinator. After the successful submission, the consortium will be informed.

7.4 Delay in Submission of Deliverables

The deliverables shall be submitted as defined in Annex I of the Grant Agreement [2]. In case any delays occur, the coordinator shall be informed immediately. The coordinator shall then inform the Project Officer. The deliverable responsible must include a justification of the delay within the delayed deliverable including the possible effect on follow-up activities and respective mitigation measures.

8. Reporting Process

8.1 Internal Reporting

The internal reporting is not submitted to the funding authority but is the basis for the continuous project reporting. In the following, a short description of the instruments is provided.

8.1.1 Strategic Steering Board (SSB) & Technical Steering Board (TSB) Meeting

The Strategic Steering Board (SSB) and the Technical Steering Board (TSB) are responsible for the technical and scientific coordination, as well as the strategic execution of the project. It is therefore the role of the SSB and TSB to regularly report the WP status.

8.1.2 6-Month Progress Report

All partners must provide their 6-month progress report to the coordinator. The report includes the progress report per partner, efforts, deviations (if any), and the progress report per Work Package. The templates will be prepared and provided with further instructions on how to fill in the requested data and the deadlines/timeline.

8.2 External Reporting

The external reports will be submitted by the coordinator to the funding authorities 60 days after the end of each period as defined in the Grant Agreement [2]:

- 1st Reporting Period (RP1): M1 to M18
- 2nd Reporting Period (RP2): M19 to M36

The templates for the external reporting will be provided with further instructions on how to fill in the requested data and the deadlines/timeline.

8.2.1 Steps to be Taken by the Partners

Each partner must provide (1) its individual contribution and efforts per work package, and (2) its cost statement on project level. Partners must prepare and submit their financial reports directly in the EU portal. If they do not do so, the costs for that reporting period will be considered as "zero". It is possible to report them in the next reporting period.

8.2.2 Steps to be Taken by the Task Leaders

The task leaders prepare a summary of their tasks based on the information received from all project partners.

8.2.3 Steps to be Taken by the Work Package Leaders

The WP leaders prepare the WP reports based on the data that have been provided by all project partners and the task leaders.

8.2.4 Steps to be Taken by the Coordinator

The coordinator prepares the progress report according to the requirements based on the information that has been provided by the partners, Task and WP Leaders. A final check will be done by the coordinator and the partners will be asked for a final check before the coordinator submits the reports to the funding authorities.

9. Conclusion

D1.1 Project Handbook (incl. QA Plan and Risk Plan) should be used by all partners during the project lifetime. When reading the deliverable, the structure, and processes of HiPE should be clear and partners should be able to start working right away. This deliverable should serve as a guide as to how to prepare and review deliverables, how to monitor the work progress, ensure quality and monitor risks. By doing so, an efficient project execution can be ensured.

This document serves as a basis and will be updated throughout the project duration, when needed.



10. Abbreviations

Term	Definition
BEV	Battery Electric Vehicles
СА	Consortium Agreement
EU	European Union
F2F	Face to Face
GA	General Assembly
HiPE	High Performance Power Electronics Integrations
IAB	Industrial Advisory Board
МоМ	Minutes of Meeting
PC	Project Coordinator
PU	Public
QA	Quality Assurance
QM	Quality Management
R	Document, Report
RP	Reporting Period
SSB	Strategic Steering Board
TSB	Technical Steering Board
WBG	wide bandgap
WP	Work Package

- [1] HiPE Consortium Agreement, FINAL version 3.0, 2022-05-17
- [2] Grant Agreement Number 101056760 HiPE, 2022-10-13