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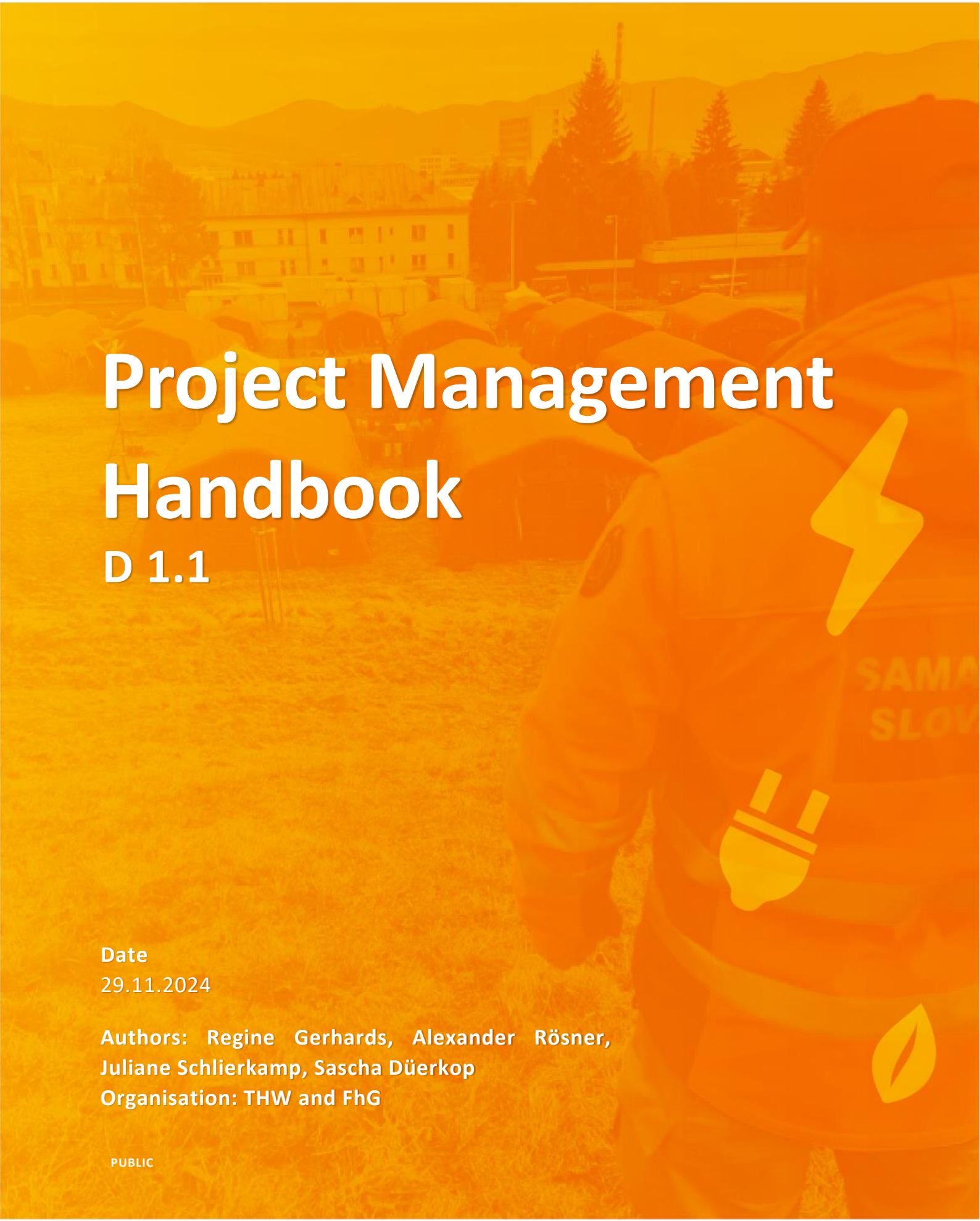
POWERBASE



Project Management Handbook

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Project Management Handbook

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About the document

The POWERBASE Project Management Handbook is intended to support partners in the effective and efficient administrative and financial management of the project. It describes the project management and collaboration processes and tools in POWERBASE. The handbook is provided in complement to official documents (Grant Agreement and its annexes, the Consortium Agreement) which in case of conflict or uncertainty, supersede the Project Management handbook.

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CL	Classified information under the Commission Decision No2015/444	

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[1] Deliverable types:
R: document, report (excluding periodic and final reports).
DEM: demonstrator, pilot, prototype, plan designs.
DEC: websites, patent filings, press and media actions, videos, etc.
OTHER: software, technical diagrams, etc.

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Abbreviations

BoO	Bases of Operation
DoA	Description of Action
EC	European Commission
ESs	Emergency shelters
FhG	Fraunhofer INT
GA	Grant Agreement
GDPR	General Data Protection Regulation
NDA	Non-Disclosure Agreement
OMC	Open Market Consultation
PAB	Project Advisory Board
PCP	Pre-Commercial Procurement
PMO	Project Management Office
SOTA	State-of-the-Art
THW	Technisches Hilfswerk
WP	Work Package

Executive summary

This document has been created to support the collaboration between consortium partners and to ensure that requirements from the European Commission (EC) are respected. It describes the project management and collaboration plans within the POWERBASE project and the tools and processes to be used. The handbook complements important documents like the EC Grant Agreement (GA) and its annexes, the Consortium Agreement (CA), and the EC guidelines, which in case of conflict or uncertainty, supersede the project management handbook. The handbook addresses six sections critical for a successful project implementation:

- Management structure and decision making
- Contractual management
- Progress monitoring and quality assurance
- Risk management
- Document archive: SharePoint
- Project communication and dissemination
- Ethics and data management

1. Overview of the project

1.1. Overall structure of the work plan

POWERBASE will provide the foundational groundwork for future procurement processes ensuring that EROs are equipped with highly innovative low-emission energy solutions for ESs and BoOs that meet their real operational needs (reliable, self-sufficient, mobile, economical, improved workplace conditions, etc.), in the decades to come.

To tackle this goal, POWERBASE partners have identified and set four key objectives addressing emergency response organizations, suppliers, buyers and stakeholders from policy and research.

Table 1. POWERBASE Objectives

Objective 1		To describe the **Europe-wide unmet needs for (innovative) renewable energy supply and related functional and operational requirements** along representative and future-relevant emergency response scenarios, involving ESs and BoO
Objective 2		To provide a **holistic State of the Art (SOTA) analysis of commercially available, renewable, mobile energy solutions and of promising technologies in research and development,** to identify and outline in detail a potential supplier group to meet the specific needs of emergency response activities (Obj.1**)** and to confirm the ongoing relevance of the identified technology gap of POWERBASE
Objective 3		To **increase the capacity of European public procurers in accelerating innovation uptake** by providing information and exchange on legal and administrative issues and deliver a full set of tendering documents and training for an **upcoming pre-commercial procurement action**
Objective 4		To **raise awareness** about the objectives, scope and results of POWERBASE and **foster cross-sectoral stakeholder engagement**, while continuously exchanging information about end-user needs and potential solutions, to **pave the way for future renewable mobile energy solutions uptake**

Thereby, the workplan (Figure 1) is structured in four work-packages (WP) with following interrelationship. (The full description of the WPs can be found in the GA Annex I Part A)

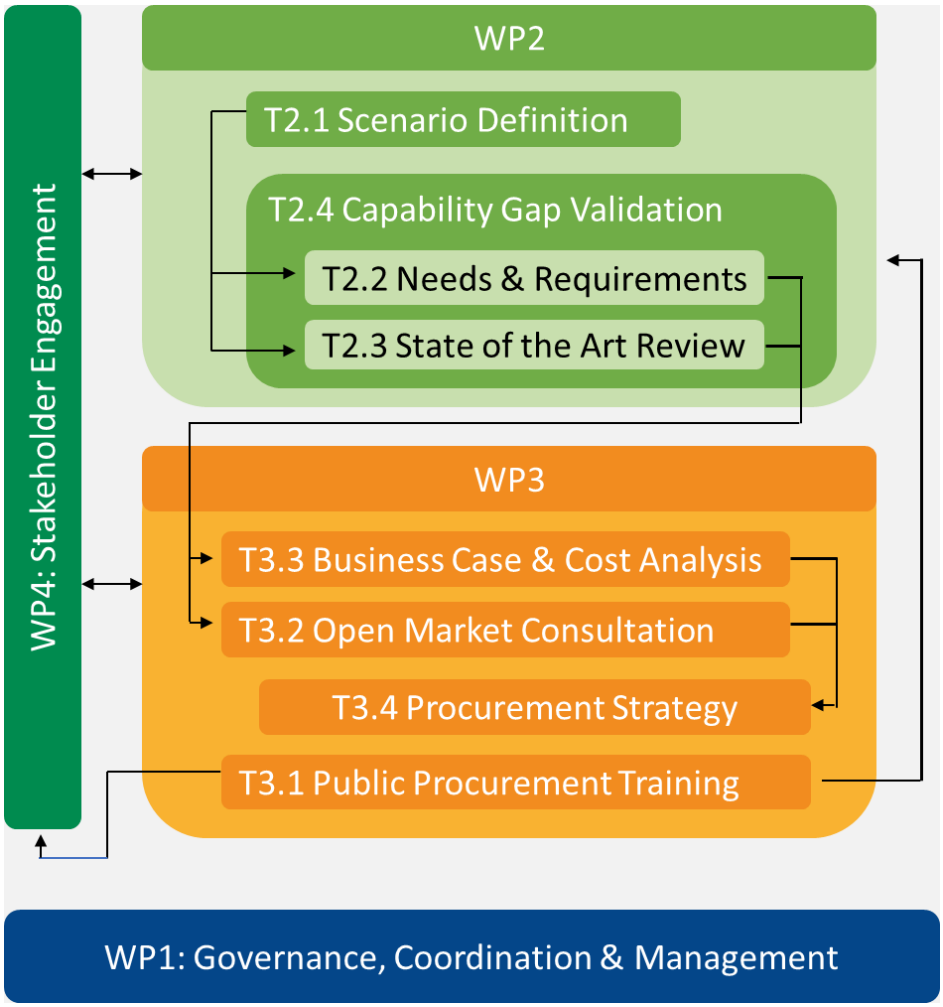

Figure 1. POWERBASE PERT Chart

1.2. Project duration and deadlines

The project has a duration of 12 months, starting from October 1st, 2024. All project events are linked to the 12-months timeline by a month (Mx) number, M1 being October 2024. For project deadlines this means that delivery is expected no later than the last working day of that month. The project consists of one contractual reporting period from M1 to M12.

2. Management structure and decision making

To ensure smooth operations of all project process, the consortium established different decision making bodies as well as reviewing boards. Figure 2 gives an overview on the management structures.

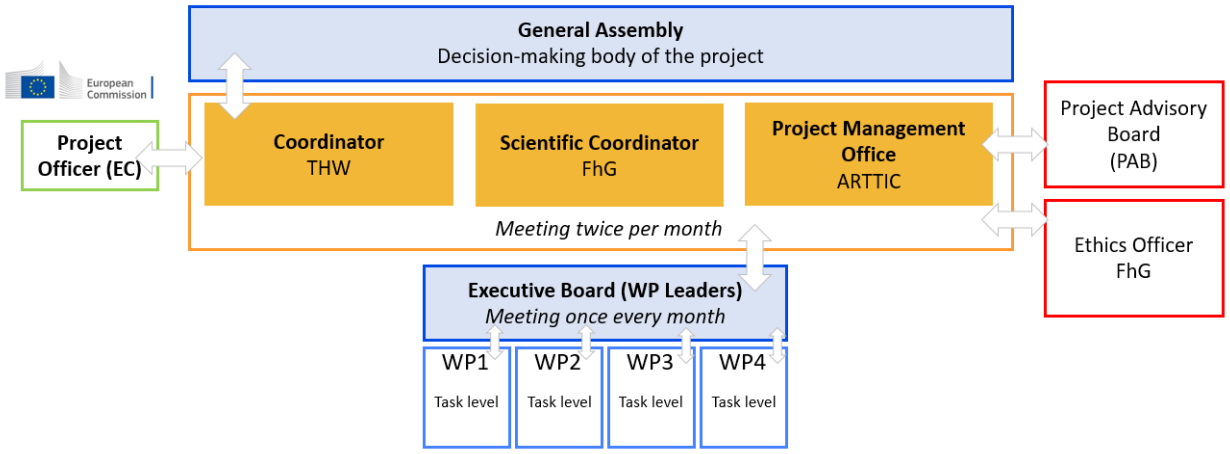

Figure 2. Governance structure of the POWERBASE project

2.1. Operational and decision-making entities

2.1.1. POWERBASE Coordinator

The **Coordinator** acts as the intermediary between the Parties and the Granting Authority. THW is the coordinator of the POWERBASE project. As the overall leader of the project, THW's key tasks are:

- To monitor compliance by the Parties with all project obligations
- To monitor the overall progresses of the project and the quality of the results
- To collect, review, and submit reports, deliverables and documents requested by the EC, with the support of the Project Management Office (PMO)
- Administer the financial contribution of the EC, proceed with pre-financing and interim payments as outlines in the POWERBASE GA and CA.

2.1.2. POWERBASE Scientific Coordinator

The **Scientific Coordinator** will be responsible for coordinating scientific implementation, organizing scientific meetings, engaging with the scientific community and monitoring the technical work activities progress in cooperation with the Work Package Leaders, ensuring that both the project objectives and the individual work package objectives are met. The Scientific Coordinator of the project is FhG.

2.1.3. Project Management Office (PMO)

The **PMO** assists the Coordinator and Work Package Leaders for implementing the decisions of the General Assembly (GA). Whilst the coordinator will take care of the scientific/technical and strategic management of the project, the PMO will assist and facilitate the work of the coordinator for executing decisions as well as supports the day-to-day management and supporting partners in administrative matters

- Providing a web-based secured virtual workspace and communication environment to support efficient remote collaboration
- Providing the logistics support for major project meetings, including preparation of agendas, invitations, distribution of material, logistics for the meeting, moderation of the meetings and

preparation of minutes and action lists, follow-up of answers to reviewer comments for review meetings, etc.
- Providing and updating a list of performance indicators to assess the status of the project according to plans (deliverables, milestones, person-month and budget consumptions, planning, risk register, action lists, etc.)
- Producing periodic report templates and assisting partners and WP-Leaders with the Periodical Reporting process
- Archiving all project related documents
- Assisting individual project partners on specific administrative issues including amendments to the GA and to the CA

ARTTIC Innovation GmbH's team will be the PMO in POWERBASE and will work in close cooperation with the POWERBASE coordinator THW and Scientific Coordinator (FhG). The share of responsibilities and tasks between THW, FhG and ARTTIC are reflected in the task description of WP1 and will be discussed and monitored in bi-weekly meetings.

2.1.4. General Assembly

The General Assembly is the highest decision-making body of the consortium. It consists of one representative of each Party. The General Assembly will decide on following key decisions:

- Content, finances and intellectual property rights such as:
    - Changes to the technical working plan (GA Annex 1 and 2)
    - the percentage of work package completion per work package as well as per Party to be reported to the Granting Authority
    - Changes to the CA (incl. background)
- Evolution of the consortium such as:
    - Entry of withdrawal of a Party
    - Appointing WP Leader and Scientific Manager
    - Proposal to the EC for a change of the Coordinator as well as suspension of termination of all or part of the project
- Breach, defaulting party status and litigation
- Appointment of Advisory Board members

The POWERBASE General Assembly will meet quarterly including Kick-off meeting and shall also convene extraordinary meetings at any time upon written request of any Member.

2.1.5. POWERBASE WP Leaders

The WP leaders will be responsible of the day-to-day decisions of their respective WP, timely preparation and submission of the Deliverables according to the Deliverable Review Process (see section 7.4). The Coordinator and the WP leaders build the Executive Board (EB). The EB will meet monthly and progresses, status of the deliverables and Milestones, and update on the Risks of each individual WP will be monitored. The WP Leaders are presented in Table 2.

Table 2. POWERBASE WP Leaders

WP No	Title	Partner	
1	Governance, Coordination and Management	THW	
2	Scenario & requirement definition, SOTA and capability gap analysis	FhG	
3	Procurement Preparation	KEMEA	
4	Stakeholder engagement, Dissemination, Communication & Exploitation	ARTTIC	

2.1.6. Meetings and notifications

The General Assembly will have at least quarterly meetings and at any time upon request of any Member. The WP Leaders will meet monthly. The Coordinator or the PMO will notify (incl. provision of agenda) the GA and WP Leaders as soon as possible and no later than 14 days prior of an ordinary meeting. The coordinator or the PMO is responsible for drafting and providing meeting minutes to all members no later than 10 calendar days after the meeting. The minutes shall be considered as accepted, if the Members do not object within 15 calendar days from receipt.

Voting

Any agenda item requiring a decision by the members of a consortium body must be identified as such on the agenda. Any member of a consortium body may add an item to the original agenda by written notice to all the other members of that consortium body. Decision making during a meeting requires a 2/3 quorum of the decision-making body. A decision is agreed by a majority of 2/3 of all parties. A decision may also be taken without a meeting if the Coordinator circulates a suggested decision with a deadline for response at least 15 calendar days after receipt.

2.1.7. Conflict resolution

Conflicts should be resolved at the appropriate level within the project structure. The escalation of issues is only expected when a suitable solution cannot be found among the partners at a given level or when the implications of the conflict potentially impact the project objectives, schedule, or budget at a higher level.

For technical issues:

- Conflicts within a WP should be resolved by the WP Leader.
- Conflicts between WPs should be resolved by the WP Leader(s) or escalated to the Project Coordinator.

For contractual issues:

- Partner difficulties or conflicts between partners should be addressed to the Project Coordinator.
- The Coordinator, in consultation with the WP Leaders and GA, will escalate up to the EC depending on its severity and the implications for the project.

2.2. Advisory boards

The PAB provides strategic advice for the implementation of the project. Acting as a sounding board for the consortium, PAB provides expert opinion which allows a broader perspective and a critical review on POWERBASE activities. THW collects this feedback and shares this with the consortium. The PAB will be appointed and steered by the General Assembly. The members of the PAB are presented in Table 3. Interested stakeholders will be given the opportunity to join the PAB throughout the project duration.

Table 3. Members of the project advisory board

Name of advisor	Affiliation
Bram Krieps	Civil servant at Ministry of Foreign Affairs, Luxembourg
Dr. Mari Ann Simmovart	Associate Professor, Head of Public Law Department at University of Tartu, Estonia
Olaf Böcker	Federal Office of Civil Protection and Disaster Assistance (Germany)
Milan Dubravac	President of the International Association of Fire and Rescue Service (CTIF)
Dr. Petr Oslejsek	Deputy DG of Fire and Rescue Service of the Czech Republic & Management Board Member of the FEU
Evrimm Bunn	Senior Advisor for US Fire Administration and Federal Emergency Management Agency.
Ron Langhelm	Project manager, Department of Homeland Security Science and Technology Directorate
Matej Gajzer	Managing Director of TECES. Coordinator of INDY and EDA CF SEDSS.

3. Meeting guidelines

3.1. Meeting preparation, agenda, and minutes

For each project meeting, the agenda should be distributed in advance (14 calendar days for regular meetings, 7 calendar days for extraordinary meetings) to inform the participants about the topics to be discussed and to give them the possibility to suggest changes to the agenda. If specific documents or reports are to be discussed in the meeting, the draft material should be made available in advance to ensure that the participants have time to read and prepare comments.

Agenda and minutes should be posted on the project SharePoint in the relevant meetings folder. For meetings of the whole consortium or separate consortium bodies (GA, WP Leaders), the Coordinator or the PMO will organize the meetings and send the draft minutes including actions agreed upon within 14 calendar days. In the case of technical or WP level meetings as well as workshops or filed tests, the meeting organizer is in charge of preparing the agenda and the minutes, using the project templates.

3.2. Planning, logistics and follow-up

To avoid conflicting events and to keep everyone informed, all meetings should be communicated as early as possible. If possible:

- Use teleconferencing and web conferencing (Teams) for short meetings;
- Combine physical meetings with different purposes to save time and money for travelling;
- Rotate meeting locations of regular meetings to share the burden of travelling;
- Use partner premises only if they are easily accessible. Particular attention must be given to the follow-up of the meeting: check commitment on decisions and actions with absent partners, and check that decisions are respected and actions executed.

3.3. Participation of external people

If other participants are invited to attend meetings (or parts of), such as the PAB members or International stakeholders, necessary measures should be taken to ensure that there are no conflicts

of interests with beneficiaries (seeking prior approval of other meeting participants and if deemed necessary other project beneficiaries) and that sensitive information communicated during the meeting is sufficiently protected (e.g. through the signature of a Non-Disclosure Agreement, see chapter 6.2 Monitoring and reporting). Their participation to meetings or teleconferences must be submitted to the GA for validation.

4. Contractual management

4.1. Grant Agreement

4.1.1. Content

The GA constitutes the contractual agreement between the EC, the project Coordinator, and the other beneficiaries. It details the rights and obligations of the parties, the grant amount, funding and reporting periods, rules for dissemination etc. The GA contains 5 Annexes:

Annex 1: Description of the action
Annex 2: Estimated budget (Lump Sum breakdown) for the action
Annex 3: Accession forms
Annex 4: Model for the financial statements
Annex 5: Specific rules

4.1.2. Amendments

Beneficiaries wishing to request an amendment should contact the Coordinator or the PMO with details of their request. The Coordinator will discuss the proposed amendment initially with the participant requesting the amendment and make suggestions to the GA for the formal amendment request, including changes to the Description of Action (DoA), drafting of the amendment request letter, and required supporting documents. When necessary, a voting on the amendment will be carried out. The Coordinator will lead any communication with the EC to implement these changes.

Table 4. Amendments to the GA – process and voting

Issue	Process	Vote in GA required (yes/no)
Update of administrative information (contact person and details)	Update in online portal	No
Changes of legal data (legal name, address)	Update in online portal through the legal entity appointed representative (LEAR)	No
Change of legal representative (not the Project Coordinator)	A signed information letter should be sent to the EC	No
Universal transfer of rights and obligations (takeover, merger…)	Formal communication to the EC including supporting documents, Update in online portal and information of the Unique Registration Facility	No
Addition/Termination of participant	Amendment	Yes
Change of Project Coordinator	Amendment	Yes
Universal or partial transfer of rights and obligations including changes to the work plan or concerning the Project Coordinator	Amendment	Yes
Modification of Annex I/ Description of Action – tasks, work packages, deliverables, milestones	Amendment	Yes

Issue	Process	Vote in GA required (yes/no)
Modification of Annex I/Description of Action - budget	Amendment only for substantial changes linked to changes in the work plan	Yes
Changes in details for Project Coordinator	Amendment	No

The GA can be found on SharePoint. Further guidelines can be found on the EC funding and tenders portal.

4.2. Consortium Agreement

4.2.1. Content

The purpose of the CA is to specify the participants collaboration in accordance with the provisions of the GA. It supplements the contractual provisions of the GA to detail the rights and obligations of the participants more specifically amongst each other in relation to project management and governance structures, financial provisions, intellectual property rights, and access to results and background, and liability.
The CA can be found on SharePoint.

4.2.2. Amendments

Amendments to the CA, other than for the purpose of implementing an amendment to the GA, require the approval and signature by an authorized signatory of each of the participants, unless solely relating to contact details of a participant or information on additional data, know-how or information entered into the action subject. A request for amendment should be addressed in writing to the Coordinator and the PMO.

5. Ethic management

This chapter will provide a basis for the ethic management within POWERBASE. It does take a look at relevant ethical guidelines that all project partners have to adhere to and additionally defines management measures that will be carried out throughout the project. It finally does clarify responsibilities and reporting mechanisms for any ethical considerations.

5.1. EU laws governing POWERBASE

The main regulatory governance document for Horizon Europe projects, such as POWERBASE, is Regulation 2021/695 of the European Parliament and of the Council of 28 April 2021. Of particular relevance are Article 18 and Article 19. By signing the Grant Agreement (GA) of POWERBASE, all partner guaranteed that they will adhere to these guiding documents (Annex 5 of the Grant Agreement).

Article 18 does clarify which research will not be funded under the Horizon Europe framework. As Coordination and Support Action, POWERBASE per se doesn't perform any research activities. Nevertheless, the project guaranteed during the proposal submission and confirms again that it does not perform any of the activities that are relevant under Article 18, such as human cloning or research involving human stem cells.

Article 19 does define the ethical principles that all Horizon Europe projects should follow, including POWERBASE. In the following sub-chapters, this paragraph will detail how the points raised in Article 19 will be considered and managed within POWERBASE.

5.2. European Convention for the Protection of Human Rights and Fundamental Freedoms

The members of the POWERBASE consortium are committed to promoting and protecting the European convention for the protection of human rights and the fundamental freedoms of the Union.[2] In particular, the following fundamental freedoms are considered relevant for the management of POWERBASE:

5.2.1. Article 10: Freedom of Expression

All project partners of POWERBASE appreciate the freedom of expression of all parties involved, including but not limited to the project partners, and do not seek to suppress this freedom in any possible way within the project or beyond that. Should any POWERBASE partner feel that his or her opinion is being suppressed or witnesses the suppression of the opinion of a project external participant in the POWERBASE activities, he or she should report this to the ethical officer (see 5.6) immediately. External participants will also be informed about the possibility to directly report e.g. feelings of discomfort to the project coordinator THW who will immediately inform the POWERBASE ethical officer. In such a case, the ethical officer will ensure that the opinion that was perceived as suppressed will be heard and documented in the minutes of the immediately following plenary meeting of the project.

5.2.2. Article 11: Freedom of assembly and association

All project partners of POWERBASE appreciate the freedom of assembly and association. They will not seek to prevent any assemblies of associations of other project partners within or outside of POWERBASE in any possible way or form. Due to the independence of the project partners, it is not to be expected that the freedom of assembly or association could be restricted by any of the partners.

5.2.3. Article 14: Prohibition of discrimination

All project partners of POWERBASE are committed to eradicate any discrimination on any ground such as sex, race, colour, language, religion, political or other opinion, national or social origin, association with a national minority, property, birth or other status.

The POWERBASE consortium is aware and will be regularly reminded by the ethics officer (see 5.6) that anti-discrimination is of particular relevance, whenever the project consortium does consult, survey or otherwise involve third parties. Within POWERBASE, the following activities involving third parties are considered to be particularly vulnerable to possible discriminations and thus will in turn take special measures to avoid any form of possible discriminations.

5.2.4. Task T1.4 – Advisory Board Coordination

POWERBASE is committed to involve a diverse, multi-stakeholder and interdisciplinary Advisory Board that shall be actively involved in project activities, e.g. workshops, validation meetings, procurement training or dissemination activities. The selection criteria for the Project Advisory Board shall not be discriminatory in any way or form and the participation of marginalized voices is particularly encouraged.

[2] European Court of Human Rights (2021). European Convention on Human Rights.

In particular, POWERBASE aimed to achieve a gender-balanced Project Advisory Board. Following the critical mass theory, at least 30% of the Project Advisory Members shall be male and 30% shall be female. With the start of the project, POWERBASE reached 28,6% female participation, which is about to be reduced now to 25% due to a new valuable potential member from the Federal Office of Civil Protection and Disaster Assistance, Germany. Considering the gender quotes in the area of emergency response on the demand side as well as in particular in context of mobile power supply on the supply side, this is still considered to be representative.

5.2.5. Task T2.2 – Common requirements, need identification and definition

Within Task T2.2. several workshops are planned to analyse standard procedures, functional requirements and ultimately derive specific needs related to the implementation of alternative power supply solutions in mobile Bases of Operation and Emergency Shelters to be used in future PCP processes. The definition of such needs shall stand on a broad footing and should actively seek to reflect the needs of a broad variety of future users and beneficiaries. It thus is of great importance that Task T2.2. does in particular look at ethical aspects, as clarified in the Grant Agreement (GA).

The task lead shall and will critically reflect, if the needs identified are indeed discrimination-free and that any potential harm for any part of society is mitigated in the best way.

5.2.6. Task T2.3 – State of the Art (SOTA) Review: Research and existing solutions

Within Task 2.3. relevant solutions that can help reduce emissions and potentially replace diesel generators will be identified and analysed. Both steps, the identification and the analyses of state-of-the-art solutions should be free of any form of discrimination and not exclude any solution for any other reasons than objectively assessed operational shortcomings.
To ensure that no possible solution is omitted, the Project Advisory Board shall be given the opportunity to study the list of identified solutions and nominate additional possible solutions. The task lead shall define clear, objective and discrimination-free criteria for the analysis of the solutions.

5.2.7. Task T3.1. – Trainings on innovation, public procurement and competence building for public buyers.

Within Task T3.1. trainings and webinars will be offered to consortium members, but also third-party participants in a hybrid format. Due to the defined capacity of a maximum of 35 participants, the task might have to select participants from a larger number of applicants interested in participating, which causes the risk of potential discriminations.

To ensure that such a selection process is free of discrimination, if at all required, the consortium partner organising webinars or trainings shall ensure that the selection is made on a randomized basis and, in particular, is not based on language, location or the gender of the applicants. The selection criteria, if required, should be fair, transparent and documented in the respective deliverable.

5.2.8. Work Package 4

Work Package 4 includes all communications with and consultations of stakeholders outside of the POWERBASE consortium. Several communities of third-party actors are established and managed within the WP.

To ensure that these communities were established free of any discrimination, the task lead of T4.1. shall reflect on the possible selection criteria for the inclusion of interested parties in the community. The criteria should be objective, transparent and free of any possible discrimination.

In T4.1, but also in T4.2-T.4.4., communication towards and with external stakeholders will take place. Communication processes often are vulnerable to possible discriminations, as key messages might only reach certain parts of the target group or are only distributed to certain parts of a target. This risk shall be mitigated by the respective task leads, who shall critically reflect that the tone, design and language of any communication material are non-discriminatory and distributed evenly to all relevant third-party actors. Task T4.5. shall, additionally, embed considerations for discrimination-free collaborations and activities within the framework developed within T4.5.

5.3. Ethics self-assessment

All POWERBASE partners have done an ethics self-assessment prior to the start of the project. The result of the self-assessment (see Grant Agreement, v03, pp. 26ff) was indemnifying. No particular ethical risks beyond risks stemming from the work with humans (as a source of information) were identified in the process. The consortium is committed to mitigate any risks resulting from the work with humans in that form and has guaranteed that by signing the Grant Agreement (GA).

5.4. European Code of Conduct for Research Integrity

The POWERBASE consortium and all of its partners are fully committed to the principles of the European Code of Conduct and will respect the Code in its entirety. The project partners will conduct their research reliably, honestly and respectfully and will interact following these principles. The project partners full do accept accountability for its research from idea publication. The guidelines detailed in 5.6 will ensure this accountability within the project.

5.5. Others

POWERBASE is not planning any activities outside of the Union. However, should any partner plan activities outside of the Union during the process, it will inform the ethics officer (see 5.6) immediately.

The other provisions of Article 19 are not relevant for POWERBASE.

5.6. Dual Use character of POWERBASE solution

The renewable energy solutions to be identified within the POWERBASE project principally have a dual-use character because they can be utilized for both civilian and military applications. Technologies developed for renewable energy sources such as solar or wind power can also be used in military applications, for instance, to supply energy to military bases or in crisis areas. The solutions are often mobile and can be quickly deployed in various scenarios, both in humanitarian missions and military operations. The ability to operate independently of fossil fuels is crucial for both civilian emergencies and military operations, especially in remote or conflict-affected areas. Many technologies developed for renewable energy are subject to regulatory requirements that also consider their use in military contexts.

POWERBASE does not intend to promote military applications of its research results. While military stakeholders may be given the opportunity to give feedback e.g. in the context of cooperation with other projects, the primary objective of POWERBASE is purely civilian.

The solutions developed under POWERBASE are intended for scenarios such as natural disasters, humanitarian crises, and operations by emergency response organizations. Specifically, the POWERBASE solutions aim to be used in large-scale natural disasters like floods or earthquakes, rapid response in humanitarian crises, and various operational contexts where emergency teams need reliable energy supply.

Workshops with civilian stakeholders will be conducted to tailor the solutions to their specific needs. It is not planned to develop technological solutions for military scenarios or requirements. However, all deliverables are freely accessible, allowing anyone to learn about the identified renewable energy options.

5.7. Ethics Governance

Ethical matters within the project shall be managed by an **ethics officer**. The ethics officer does not have any particular rights, but is responsible for the management of any and all ethical matters at any time during the project.

Initially, Isabelle Linde-Frech of FhG is appointed as ethics officer for the project.

The ethics officer will:

1. Present the ethical guidelines and any possible ethical risks mentioned in the Grant Agreement, the ethics self-assessment and this handbook to the next plenary meeting following the publication of this deliverable.
2. Remind the consortium of its ethical responsibilities and ask for any newly arising ethical risks during every plenary meeting following the publication of this handbook.
3. Compile a register of Conflicts of Interests reported by the members of the POWERBASE consortium.
4. Attend Project Advisory Board and Review Meetings of POWERBASE to answer any possible questions regarding the project's ethics coming from the Advisory Board or the Commission or Reviewers.
5. Mediate any disputes stemming from ethical issues and, if necessary, convene additional plenary meetings to discuss and govern such issues.

Everyone involved in the POWERBASE project, as a partner, a participant in an event, a Project Advisory Board member, a service provider, consultant or in any other possible way or form, shall make himself or herself acquainted with the regulations that govern the work within POWERBASE.

Everyone involved in the POWERBASE project shall immediately report to the ethics officer, if:

1. He or she deems his or her rights or the rights of anyone in- or outside the consortium be restricted during the project's activities by POWERBASE or its members in any possible way or form.
2. An actual or perceived conflict of interest might exist.
3. He or she requires guidance or assistance with understanding his or her rights and/or ethical responsibilities within POWERBASE.

5.8. Additional Provisions

Due to the nature of POWERBASE, which does provide SOTA analysis, but also actively seeks for commercially available solutions, two additional ethical considerations are of special relevance for the project:

5.8.1. Conflict of Interest

There is a potential risk that conflict of interests might exist or occur in future. In particular during the SOTA analysis there is a risk that POWERBASE partners do identify or positively assess solutions that are commercialised by an actor that the concerned partner is connected with. Such conflicts of interests can involve, but are not limited to:

- A solution is commercialised by an entity owned or dependent of a POWERBASE consortium member
- A solution is commercialised by an entity that is in an existing contractual agreement with a POWERBASE consortium member
- Some individual of a POWERBASE consortium member has a financial interest in the entity that commercialises a certain solution, e.g. by holding significant shares, (part-)ownership or holding a position in the commercial entity

If any POWERBASE partner is aware of any such conflict of interest involving his or her own entity or any other POWERBASE partner, he or she shall immediately report that conflict to the ethics officer.

Whenever solutions are selected or assessed by any non-objective and technical criteria, the POWERBASE partners that have an existing or perceived conflict of interest with the owner of that solution shall not be involved in the process.

5.8.2. Corporate sustainability due diligence

The POWERBASE consortium and its members are not legally responsible for the solutions considered during the project or the entity selling these solutions on the European market. Still, the project shall take special pre-cautions to avoid promoting possible solutions that are currently only available from dubious or harmful commercial actors.

The state-of-the-art analysis thus shall also consider the corporate sustainability of the commercial entities offering the solutions identified. In particular for non-European commercial entities, it should be assessed if the entity would fulfil the CSDDD (Corporate sustainability due diligence) directive (Directive 2024/1760).

6. Data management

This section aims to present the POWERBASE Data Management Plan DMP for all types of data processed during the project. It outlines how data will be collected, stored, and distinguished between personal and non-personal data. The plan aligns with the project's research objectives, complies with European and national legislation, and provides necessary documentation and guidance for all partners.

For personal data, processing and storage will strictly adhere to EU Regulation 2016/679, the General Data Protection Regulation (GDPR). All partners are committed to ensuring privacy, personal data protection, and security. The POWERBASE project adopts a GDPR-compliant approach based on the principles of "privacy by design and by default," incorporating technical and organizational measures to maintain data protection standards from the outset. Partners are required to follow the processing strategy detailed in this chapter, including measures such as data anonymization/pseudonymization, minimization, storage, retention, and security protocols, ensuring end-to-end compliance.

In contrast, the handling of non-personal data follows the FAIR principles (Findable, Accessible, Interoperable, Reusable) and Open Science research standards. All partners are committed to ensuring that non-personal data is accessible to promote transparency and reusability.

Overall, the data management plan adheres to the guiding principle of being "as open as possible, as closed as necessary."

6.1. GDPR Compliance and Data Management Policies

Data protection is a fundamental pillar of the POWERBASE project, ensuring that all research activities comply with GDPR requirements and adhere to best practices in data management. This section outlines the principles, roles, and procedures that guide the collection, processing, and storage of both personal and non-personal data within the project.

The POWERBASE consortium is committed to responsible, secure, and transparent handling of data, balancing the need for open science with strict privacy and security standards. Key aspects of the framework include adherence to GDPR's core principles, the appointment of GDPR officers to oversee compliance, detailed processes for data collection and storage, and strategies for the ethical handling of personal and non-personal data.

By integrating FAIR Data Principles and Open Science Practices, the project ensures that all outputs are not only aligned with legal and ethical standards but also optimized for accessibility, reusability, and long-term impact. The following subsections provide a comprehensive overview of the strategies and guidelines that govern data management and protection in POWERBASE, establishing a robust framework for ethical and efficient research activities.

6.1.1. Data Protection Principles

Article 5 of the GDPR establishes seven key principles that form the foundation of the data protection framework and which will be followed by POWERBASE: lawfulness, fairness, and transparency; purpose limitation; data minimization; accuracy; storage limitation; integrity and confidentiality; and accountability. The project is committed to ensuring responsible, secure, and proportionate data processing throughout its research activities. Below is an overview of how POWERBASE incorporates these principles:

Lawfulness, Fairness, and Transparency
All data processing within POWERBASE complies with GDPR requirements, ensuring lawful practices for every step of data management, from collection to storage. Fairness mandates that actions on data align with the information provided to data subjects, ensuring they are used only for declared purposes. Transparency ensures that data subjects are fully informed about the purpose, methods, and duration of data processing, as well as who has access to their data. To achieve this, the project has developed GDPR-compliant procedures, including transparent consent mechanisms and clear communication about data collection and processing.

Purpose Specification and Limitation
Data subjects are informed about the specific, explicit, and legitimate purposes of data collection prior to processing. Personal data will only be collected and processed for research activities relevant to POWERBASE‘s objectives and will not be used for unrelated purposes. All partners are required to ensure that personal data is not unlawfully processed beyond its original intent.

Data Minimization
In accordance with GDPR, the project collects and processes only the minimum personal data necessary to achieve its objectives. This ensures that data handling remains proportional and avoids unnecessary collection of information.

Accuracy
Personal data must be accurate and kept up-to-date where necessary. POWERBASE partners are required to take reasonable steps to correct inaccuracies promptly, ensuring reliable and meaningful outcomes from data use.

Storage Limitation
Personal data will only be retained for as long as necessary for its intended purpose. All personal data will be deleted at the end of the project, while pseudonymized data will be retained for five years post-project completion for audit purposes. With explicit participant consent, pseudonymized datasets may also be shared on open science platforms.

Integrity and Confidentiality
To safeguard against unauthorized or accidental data breaches, POWERBASE employs appropriate technical and organizational measures, including anonymization and pseudonymization techniques. These measures ensure the confidentiality and security of personal data throughout its lifecycle.

Accountability
Each partner organization is individually responsible for ensuring compliance with GDPR regulations in their specific data handling activities. Partners act as independent data controllers for the data they collect, maintaining thorough documentation and taking steps to ensure accountability.

This structured approach ensures that the POWERBASE project not only meets GDPR requirements but also demonstrates a strong commitment to ethical and secure data management throughout its research activities.

6.1.2. Role of GDPR officers

Each partner organization is required to designate a GDPR Officer, who will serve as the primary point of contact for all data protection matters within their organization. This officer, in conjunction with the individual responsibility of each team member, ensures compliance with GDPR regulations and acts as a liaison for stakeholders involved in the project. The GDPR Officer's core general responsibilities include:

- Informing and advising the organization and its staff about their obligations under the GDPR and other data protection laws.
- Monitoring compliance with the GDPR and internal data protection policies, including conducting audits and staff training.
- Providing advice regarding Data Protection Impact Assessments (DPIAs) and overseeing their implementation.
- Cooperating with supervisory authorities and serving as a contact point for regulatory inquiries.

Each consortium partner must appoint a GDPR Officer to fulfill these responsibilities. In the context of this project, the GDPR Officers of Fraunhofer (FhG), responsible for overall data management, and THW are explicitly named in this document to ensure smooth coordination and consistent adherence to data protection standards:

- Dr. Harald Wirtz, harald.wirtz@int.fraunhofer.de, Fraunhofer INT
- Marina Zimmer, datenschutz@thw.de, THW

These officers play a crucial role in safeguarding the project's integrity and ensuring compliance across all participating organizations and will be involved in any case of potential data management conflict.

6.1.3. POWERBASE website: personal data processing

The POWERBASE website collects and processes personal data (see https://www.powerbaseproject.eu/privacy-protection/).

By processing personal data we mean: collecting, recording, organizing, storing, updating, modifying, retrieving, consulting, using, providing by means of forwarding, distribution, or any other form of posting, bringing together, linking together, and to protect, erase or destroy personal data.

We process personal data that visitors have provided to us, personal data generated during their visit to our website and reading newsletters, and personal data that we have derived from other sources, such as business social media platforms and business cards.

Personal information provided by visitors:

- contact details and other personal data needed to handle your assignment by a consultant,
- contact details and other personal data entered on contact forms or other web forms, and
- contact information provided during introductory talks, events, seminars, etc., such as information on business cards.

Personal data obtained through or generated by our website, electronic newsletters, commercial e-mails, or related technologies:

- IP number,
- surfing behavior on the website, such as data about the first visit, previous visit and current visit, the pages viewed and the way in which the website is navigated, and
- whether visitors open a newsletter or commercial e-mail and on which parts visitors click. See the cookie policy of the POWERBASE website.

Personal data obtained from other sources:

- personal data available on public business social media platforms such as LinkedIn,
- personal data obtained from the Trade Register of the Chamber of Commerce, and
- personal data available on public business websites.
-

Our website may contain hyperlinks to websites of other parties and 'social media buttons'. POWERBASE is not responsible for the content of those websites or the services of referred platforms. Neither is POWERBASE responsible for the privacy policy and the use of cookies on those websites and platforms.

6.1.4. Research Data collection

Table 5 provides a comprehensive overview of the types of data to be processed during the POWERBASE research activities. It includes a brief description of the data, the methods used for its collection, and the corresponding project tasks. This overview is designed to be flexible and may be updated or expanded as required during the project lifecycle.

The data required for the project will be collected through various methods, including:

- Website registrations via the contact form
- Desk Research: Gathering insights from EU project results, market solution reviews, academic literature, white papers, grey literature, standards, patents, and relevant regulations using databases and meta-databases such as Fraunhofer KATI, patbase.
- Workshops: Conducted both in-person and online to gather qualitative and collaborative input from participants.
- Online Questionnaires: Designed to collect structured data efficiently from a broad range of stakeholders.
- Open Market Consolidation: Engaging with market participants to consolidate and validate information relevant to project objectives.

This approach ensures a robust and comprehensive data collection process, enabling POWERBASE to achieve its research goals effectively while adhering to data protection standards.

Table 5: POWERBASE Research Data Summary

Corresponding Task(s)	Short description of the data	Collection Method
T2.1	Data on global trends and operational scenarios of PEROs to support the definition of future-relevant emergency response scenarios	Desk research + project internal Workshop
T2.2	Data to enable the identification and description of operational und functional requirements that a future technology (single or modular) will need to fulfil to overcome the unmet needs for post-fossil power supply in mobile emergency response units (BoO + ES)	workshops (internal and external) + desk research + online questionnaires + expert interviews
T2.3	Data related to the State-Of-The-Art-Analysis, on emerging technologies and Commercial of the Shelf Solutions	Desk Research + internal workshop + OMC + online questionnaire
T2.4	Information to compare or match the identified requirements with existing and up-coming solutions to validate the existence of the unmet needs related to mobile post-fossil power supply / the Capability Gap	Internal workshop + expert interviews
T3.1	Information related to developing targeted trainings in procurement meeting potential knowledge gaps as well as reflecting the related processes relevant for procuring future solutions	Online questionnaire + expert interviews + desk research
T2.3, T3.2, T3.3, T3.4	Information on solutions on the market to a) raise awareness of the upcoming PCP, b) collect information to fine tune the business case and cost analysis, c) serve as bases for the development of the procurement documents and strategy and d) to ensure the relevance of the upcoming PCP as no solutions on the market exists to overcome the unmet needs	Open Market Consolidation + market analysis through desk research + online questionnaire
T2.2, T2.3, T3.2, T3.4, T4.1, T4.2, T4.4, T4.5	information on potential buyers and potential suppliers to maximise the cooperation with relevant external stakeholders and to optimize the relevance and later impact of the outcomes of POWERBASE activities	Desk research + workshops + OMC + online questionnaires + expert interviews

6.1.5. Data processing of personal data

Following the principles outlined in Section 6.1.1, all project partners are required to adhere to the following guidelines to ensure compliance with data protection regulations and best practices:

Data Minimisation, Storage, and Retention

The POWERBASE project is committed to adhering to robust data governance practices by minimizing the collection, processing, and retention of data. In line with GDPR requirements, POWERBASE ensures that personal data collected is adequate, relevant, and strictly necessary for achieving project

objectives. No excess data will be collected or retained beyond what is essential for its intended purpose.
All personal data will be securely stored using password-protected in SharePoint or cloud solutions, with restricted access for project partners only. Data will be encrypted both at rest and in transit, with secure identity and access management protocols in place. Personal contacts of professionals and experts will follow the same secure storage procedures.
Personal data will only be retained as long as necessary, with periodic reviews to ensure any unneeded identifying information is destroyed. Partners are required to retain essential records and documentation for five years post-project completion, as necessary for audit purposes. Findings and improvements for future data practices will be shared with project partners through interim and final reports.

Data Security

Project research data will be centrally stored on a dedicated MS SharePoint page managed by THW, with access provided to partners via username and password. Partners may also store local copies on their institutional cloud-based servers, ensuring access controls, encryption, or password protection. Institutional security safeguards will be followed to maintain data integrity.

Data Transfer

The POWERBASE consortium ensures strict adherence to GDPR requirements regarding personal data transfers. As all project partners are based within the EU, no transfer of personal data to non-EU countries is foreseen. All research data will be securely stored on servers within the EU, and any remote work by staff will comply with GDPR standards to maintain data security and confidentiality. This approach guarantees that personal data remains protected under EU regulations, with no involvement of third-country transfers.

6.1.6. Data Processing of Non-Personal Data

Non-personal data, which does not contain any identifiable information about individuals, includes resources such as past EU-funded projects, laws, regulations, scientific publications, and project deliverables. The processing and management of non-personal data in POWERBASE follow the FAIR Data Principles (Findability, Accessibility, Interoperability, and Reusability) and Open Science Practices to ensure transparency and maximum research impact.

FAIR Data Principles

- *Findability:* Data will have unique identifiers, metadata, and be stored in searchable repositories like SharePoint for internal use and public deliverables on the project website.
- *Accessibility:* Open access to publications and project deliverables will be ensured through trusted platforms like Zenodo, following “green” or “gold” Open Access routes.
- *Interoperability:* Standardized, accessible file formats (.docx, .pdf) will be used to ensure compatibility across systems and users.
- *Reusability:* All data and outputs will be documented, licensed, and referenced, enabling traceability and re-use for future research and projects.

Open Science Commitment

POWERBASE supports open knowledge sharing, including:

- Open access to publications and data with long-term preservation.
- Creative Commons licensing for non-personal data.
- Engagement in open innovation and citizen science.
- Adherence to the principle “as open as possible, as closed as necessary.”

This ensures that POWERBASE research outputs are accessible, reusable, and impactful, fostering collaboration and innovation.

6.2. Monitoring and reporting

Effective monitoring and reporting are essential to ensure the sustainable and secure management of data throughout the project. In day-to-day operations, next to this handbook the respective GDPR Officers (refer to Section 6.1.2) of each organization serve as the primary points of contact for all partners regarding data protection matters. Their role is to provide guidance, address concerns, and ensure compliance with GDPR standards.
For all research activities involving the collection of personal data, participants must be clearly informed about the nature of the data being collected and the specific purpose for which it will be used. To facilitate this process, THW together with ARTTIC provided a standardized template on the project's SharePoint. This template is designed to be adapted to the needs of each specific research activity, ensuring consistency while allowing for customization as required. Signed consent forms from participants will be securely stored in the designated SharePoint repository to maintain proper documentation and traceability. People can also fill out the consent form online: https://ec.europa.eu/eusurvey/runner/Consent_Form_Updated

In the event of a data protection incident, such as unauthorized access, loss, or misuse of personal data, it is imperative that the issue is reported immediately to the consortium lead, the THW. This ensures that appropriate measures can be taken promptly to mitigate risks and address the incident in compliance with GDPR.

Advisory Board members are provided with an NDA to ensure they can freely carry out their roles and share critical information when necessary. This also guarantees that POWERBASE retains control over data publication, ensuring appropriate, accessible methods are chosen in alignment with Open Science principles. External workshop participants can receive an adapted version of the NDA if needed.

To maintain transparency and ongoing improvement in data protection practices, regular reporting on activities undertaken will be requested from the partners during the plenary meeting to ensure data protection, along with any challenges encountered. This reporting process allows for collective reflection, learning, and the identification of best practices to strengthen data protection measures across the consortium.

7. Progress monitoring and quality assurance

7.1. EC periodic reporting

The periodic report consists of a technical and a financial part. The coordinator must submit the technical and financial part, including requests for payment, to the EC. POWERBASE has only one reporting period (final reporting).

The periodic report (final report) summarizes the project's results over its entire duration (M1 – M12). It must be prepared using the template available in the Portal Periodic Reporting tool.

The final version of the periodic report, as well as the financial statement must be submitted to the EC within 60 days following the end of the project. The assessment of the report by the EC can take up to 90 days. The tracking of the assessment time is stopped whenever a request for further information is addressed to the consortium, until a response and possibly further documents have been submitted. The final payment (balance) will be done 90 days after receiving the periodic report.

7.2. Content of EC Periodic Report and online submission

The periodic report (final report) consists of two parts:

- One technical report for the entire project duration (divided into Part A and Part B, see below)
- The technical part includes an overview of the action implementation.
- It must be prepared using the template available in the online Portal Periodic Reporting tool.
- One consolidated financial statement for the consortium containing the lump sum contributions for the work packages that were completed
- If work packages are not completed (e.g. due to force majeure) partial lump sum contributions can be declared.
- Lump sum contributions which are not declared will not be taken into account by the EC.
- The coordinator signs (in the Portal Periodic Reporting tool) the Portal Periodic Reporting tool) the financial statement.

By signing the financial statement, the coordinator confirms (on behalf of the consortium) that:

1. the information provided is complete, reliable and true
2. the lump sum contributions declared are eligible (in particular, the work packages have been completed)
3. the proper implementation and/or achievement can be substantiated by adequate records and supporting documents

Technical report part A must be prepared and submitted in the online funding and tenders portal. Technical report part B needs to be prepared as a single document and uploaded as PDF before submission. The submission is a single step submission process.

An exception to the single-step submission are Deliverables, which need to be submitted independent of the periodic report at their due date. Any delay in submission of a deliverable needs to be justified at the time of submission and in the periodic report.

Below is presented an overview of the content of Part A and Part B.

Part A:	**Part B:**

• Project summary
• Researchers involved in the project
• List of deliverables
• List of milestones
• List of critical risks
• Project pathway to impact (not all sections will be relevant for the project)
  ◦ Results
  ◦ Results ownership list
  ◦ Publications
  ◦ Datasets
  ◦ Intellectual Property rights (IPR)
  ◦ Standards
  ◦ Other results
• Dissemination and Communication activities
  ◦ Dissemination activities
  ◦ Communication activities
• Impact
	• Explanation of the work carried out and overview of the progresses
	• Objectives
	• Explanation of the work carried out per WP
	• WP1
	• WP2
	• WP3
	• WP4
	• Impact
	• Open Science
	• Deviations from Annex 1 and 2
	• Tasks/Objectives
	• Use of resources

Financial Statement

- Consolidated financial statement containing lump sum contributions

7.3. Technical Report

The PMO, together with the Coordinator THW and the Scientific Coordinator FhG, will prepare templates and periodic reporting guidelines for project partners. The templates and guidelines will be circulated four weeks before the end of the project.

The WP leaders are responsible for collecting input from task leaders and contributors in their respective work package and will provide a complete WP report to the Coordinator and the PMO no later than four weeks before the submission deadline. As needed, the Coordinator and the PMO will update the plan for exploitation and dissemination of results.

The PMO will collect input for Part A and Part B from WP Leaders and Partners to ensure the timely constitution of the full report. The coordinator and the PMO will review the technical reports to ensure consistency and compliance with the EC contracts and complete the online tool accordingly. After approval by the Coordinator and upon completion of the financial statement, the Coordinator will submit the report to the EC.

7.4. Deliverables and Deliverable Review Process

A deliverable is a significant project result, which most often is presented in the form of a report. Deliverables are the evidence of work/progress and thus linked to the release payments. Therefore, even if a deliverable is not in the form of a report, the consortium should provide written proof to the EC that it has been completed.

The POWERBASE consortium is contractually bound to submit the deliverables to the EC within the planned timeframe. The lead partner is responsible for the preparation of the Deliverable report or written proof according to the POWERBASE Deliverable Review Process (detailed below). After revision by the internal reviewers, final checks by the Coordinator and approval of the Coordinator and Deliverable Lead, the PMO or the Coordinator will submit the report to the EC.

In case a planned deliverable needs to be re-defined, rescheduled, deleted or merged with another deliverable, the Coordinator must be informed immediately, as well as the EC Project Officer. Only after their approval the deliverable can be changed. Special regard must be paid to deliverables that are planned as public deliverables (see Table 6 below).

Table 6. Deliverable dissemination level

Dissemination level	Meaning
PU	Fully open (automatically posted online on the project results platform and project's web page)
SEN	Limited under the conditions of the Grant Agreement
R-UE/EU-R	EU RESTRICTED under the Commission Decision 2015/444

Should anything has changed in the meantime and parts of the deliverable should not be directly published, this must be discussed with the Coordinator, who will enquire with the EC Project Officer beforehand about a possible change to the dissemination. Changes might require an amendment. If a public deliverable is submitted, it is automatically published after the EC internal review process and available to the public. No sensitive or confidential information should be disclosed.

All changes to deliverables should be reported in the progress report covering the period concerned. The EC Project Officer will decide if the modification(s) requested require a GA amendment or not, and if yes how the GA amendment request should be presented.

A deliverable register and deliverable review process are in place and available on SharePoint. For every deliverable, a responsible partner has been assigned in the GA. Additionally, two reviewers have been assigned to each Deliverable (information available in Column L and M of the Register available on SharePoint). The lead partner will be notified by the PMO no later than 45 days before the submission deadline and be asked to provide the reviewers with an outline of the Deliverable. The PMO will also provide a deliverable template including relevant information from the GA. The lead partner will be responsible for collecting information from all partners involved in the deliverable and writing a harmonized report. The lead partner will send the deliverable no later than 16 days before the submission deadline to the assigned reviewers and PMO (for the follow-up purpose). The reviewers provide their feedback within 7 days. A final version of the deliverable will be sent no later than 3 days before the deadline to the PMO and Coordinator who will do the final review. Table 7 shows the review process in detail.

Table 7. Deliverable review process

	45 days	38 days	36 days	16 days	10 days	6 days	4 days	3 days	2 days	0 days
Task	Invitation to prepare deliverable (sent by ARTTIC)	Deliverable outline (Author X)	Outline review (Reviewer Y)	First draft deliverable (Author X)	First deliverable review (Reviewer Y)	Second draft deliverable (Author X)	Second deliverable review (Reviewer Y)	Final version deliverable (Author X)	Final review (THW/ARTTIC)	Submission to EC (THW)

A list of all deliverables can be found in Annex 1. A deliverable register can be found on SharePoint

7.5. Milestones

In addition to the deliverables, work progress is monitored with the achievement of milestones. In the framework of the reporting process, partners will continuously inform the EC on the achievement of the milestones. The status and means of verification of milestones will be regularly checked during General Assembly and WP-Leader meetings. For every milestone a responsible partner has been assigned in the GA. The responsible partner will be notified by the PMO no later than eight weeks before the submission deadline. A Milestone register has been set up at the start of the project and is available on SharePoint. A list of all milestones can be found in Annex 2.

7.6. Risks

The consortium continuously assesses the state of play of every risk identified in the DoA and if necessary, specifies new mitigation measures. Unforeseen risks may also be added. The status of risks will be checked bi-monthly during WP-Leader meetings, and if needed discussed during the General Assembly meetings as well.
The purpose of the risk management process is to identify and treat potential challenges before they occur. Risk management aims at ensuring that risks presenting significant impact on the project are anticipated and mitigated. The process will have four main steps and will use a dedicated risk register:

1. **Identify risks:** Collect all risks that may occur in the project. The result is a list of registered risks defined as accurately as possible, recorded in the risk register.

2. **Analyse and assess risks:** Classify each risk in the appropriate category concerning the probability to appear: High, Medium, Low, and its potential impact: High (significant delays/major problem/no solution yet); Medium (minor problem can be solved at WP level); Low (minimal impact can be solved at working level).
3. **Plan risk mitigation:** A risk owner is appointed for each risk and is fully accountable for the associated action plan. Mitigation actions can be: preventive actions to remove the cause of the risk; actions to reduce the probability and/or the impact of the risk; recovery actions to reduce the impact after the risk has occurred (in case it has become an issue). Action plans for each risk are proposed by the WP Leader, approved by the General Assembly, and monitored by the Coordinator.
4. **Monitor and control risks:** The risk register will be reviewed quarterly by the WP Leaders. The Coordinator will monitor the evolution of each risk, the results of the risk mitigation action, and as needed reassess risks, considering the project evolution and report to the General Assembly.

A risk register has been set-up at the start of the project and is available on SharePoint. The risk register will be adapted by the PMO Office and project Coordinator based on the monitoring done during the WP Leader Meetings of as needed. A list of all risks can be found in Annex 3.

7.7. Reporting Templates

The latest official template for the periodic Report on Horizon Europe projects can be found on the EC funding & Tender Portal. The PMO will establish templates and input collectors to facilitate the constitution of the Periodical Report and assist the consortium in the reporting process. All templates will be available in due time on SharePoint, ca. four weeks before the end of each Reporting Period.

7.8. EC Reviews and audits

The EC may carry out reviews after the action on the proper implementation (including assessment of deliverables and reports), compliance with the obligations under the GA and continued scientific or technological relevance of the project. Reviews normally refer to the technical implementation of the project (i.e. its scientific and technological relevance) but may also cover compliance with other obligations under the GA. **Reviews** may happen **up to two years after the final payment**, which could include review meetings and on-the-spot visits. Based on the review findings, a review report will be prepared. The EC may also carry out **audits** on the proper implementation of the action, **up to two years after the final payment**, by formally notifying the Coordinator or beneficiary concerned. The EC may also carry out **impact evaluation** of the action, measured against the objectives and indicators of the EU program funding the grant **up to five years after the final payment**. Further details regarding reviews and audits are found in Article 25 of the GA. Beneficiaries must — for a **period of five years after the final payment** — keep records and other supporting documentation to prove the proper implementation of the action and the costs they declare as eligible (Article 25 of the GA).

7.9. Internal project monitoring

7.9.1. POWERBASE Coordination Team

The POWERBASE coordination team is composed of the Coordinator THW and the Project Management Office ARTTIC. The coordination team has set up bi-weekly online meetings (twice a month) during which the project progress and administrative processes are discussed. If needed, actions are taken following the POWERBASE coordination meetings, involving relevant WP Leaders or Partners.

7.9.2. WP Leader and General Assembly Meetings

The WP Leaders will meet online bi-weekly (twice a month), starting in October 2024, to discuss POWERBASE progresses, possible delays or risks and discuss mitigation strategies. Beforehand the PMO circulates a PowerPoint template to collect input from each WP Leader. POWERBASE foresees in total four general assembly meetings (approx. every three months) where all partners convene. The WP Leader and General Assembly meeting minutes taken by the PMO will be uploaded on SharePoint no later than one week after the meetings.

7.9.3. Regular maintenance of registers and collectors

The PMO has set up registers and lists to monitor the progresses and activities, and will be responsible to regularly update these lists.
The following activities/progresses will be regularly monitored:

- Submission of Deliverables (Deliverables register)
- Achievement of Milestones (Milestones Register)
- Materialization of a foreseen risk or emergence of unforeseen risks, and mitigation strategies (Risks Register)
- List of dissemination activities including (planned) publications, presentations, posters etc. Partners will be reminded to update this list with information on their activities at the earliest opportunity, but at least quarterly after an email reminder from the PMO. The list, available as part of the D&C tracker, will enable effective communication and dissemination.
    - Tracking of publications and monitoring of compliance with the rules for dissemination
- Reporting on dissemination activities for the periodic report (final report)
    - Tracking of activities and use of the information for PR activities, such as posts on the POWERBASE social media channels, links/alerts to publications on the POWERBASE website (Dissemination Activity tracker, part of D&C Tracker)
    - List of communication activities (Communication activity tracker, part of D&C Tracker)

8. Document management guidelines

8.1. Project specific Templates

Project document templates including instructions have been created to provide a common project identity. The latest versions of the templates are available on SharePoint and include templates for presentations (PowerPoint), minutes and deliverables (Word). The templates are updated as needed by the coordinator and the PMO. The templates must be used by all participants to ensure that confidentiality, disclaimers, and acknowledgements are included in all project documents.

8.2. Language to be used

The contractual language of the project is English (UK). All exchanges of information and documentation must be provided in English to other partners and the EC. When many contributors. from various European countries contribute to the same document, the style and vocabulary of the final document can be heterogeneous. A careful check by the document leader is expected, particularly for deliverables and reports which will be submitted to the EC and for documents which will have a wide dissemination.

8.3. Level of confidentiality and dissemination

All information in whatever form or mode of communication, which is disclosed by a Party (the "Disclosing Party") to any other Party (the "Recipient") in connection with the Project during its implementation and which has been explicitly marked as "confidential" or "sensitive" at the time of disclosure, or when disclosed orally has been identified as confidential at the time of disclosure and has been confirmed and designated in writing within 15 calendar days from oral disclosure at the latest as confidential information by the Disclosing Party, is "Confidential Information".

For deliverables, there are different levels of confidentiality possible. In the GA, all deliverables are defined with a specific dissemination level, which needs to be mentioned in the deliverable report (cover page).

9. POWERBASE collaborative space on SharePoint

The PMO has established a repository on SharePoint available following this link.
The project repository on SharePoint is used as:

- A workspace to support the exchange of information and documents, as well as collaborative work on documents, as amendments or deliverables;
- Project archive for documents produced by the project; official documents can also be found (GA, amendments, CA)
- Online coordination, planning and project monitoring tools, as part of the quality management in POWERBASE

The POWERBASE repository is managed by the PMO. To grant access of a team member to the project SharePoint, or in case of questions related to this repository, please contact the PMO at mailto:powerbaseproject@eurtd.com

The repository is currently structured as follows:

- Home
- POWERBASE contact list
- Project documents
  - -Contractual documents
  - -Templates
  - -Project logo
- WP Folders
- Meetings
  - -Kick-Off
- D&C Tracker

Furthermore, the Sharepoint provides an overview of mailing lists, links to important documents (e.g. Grant Agreement, Consortium Agreement, Even Calendar, Concept figure, project poster).

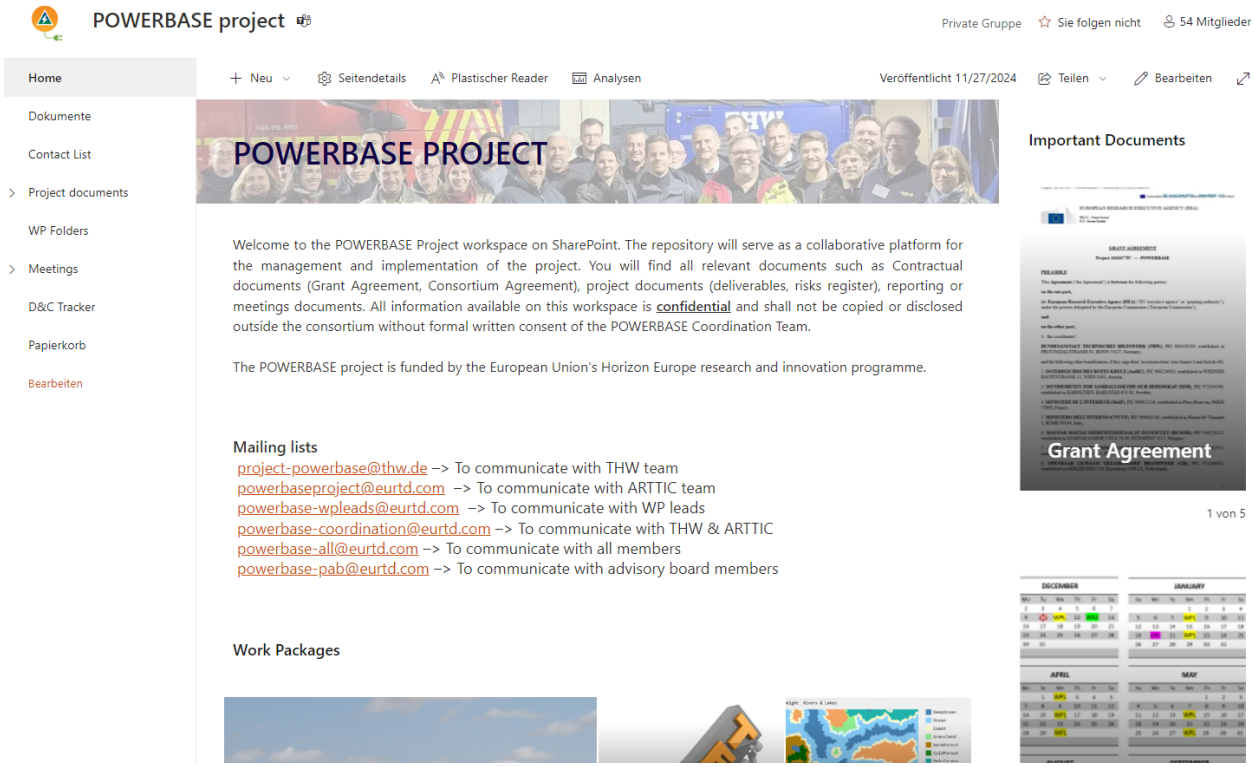

Figure 3: The POWERBASE project SharePoint

Other elements may be added to the SharePoint menu as the project progresses.

10. Project communication and visibility, dissemination

10.1. Internal Communication: email and mailing lists

The contact information of all POWERBASE partners can be found on the project SharePoint (Table 8). In case of questions about the list, or if updates are needed, please contact the PMO at powerbaseproject@eurtd.com.

Table 8. POWERBASE diffusion list

Name of person / list	Role in the project	Email
THW team	Project Coordinator	project-powerbase@thw.de
ARTTIC team	PMO	powerbaseproject@eurtd.com
WP leads	Leads of WP 1-4	powerbase-wpleads@eurtd.com
THW team & ARTTIC team	Project Coordinator & PMO	powerbase-coordination@eurtd.com
POWERBASE consortium	All POWERBASE partners	powerbase-all@eurtd.com
Project Advisory Board	Members of the Project Advisory Board	powerbase-pab@eurtd.com

10.2. Communication with the EC

The Project Coordinator is the official interface to the EC. All formal exchanges of information relative to with the EC should therefore be handled through the Project Coordinator.

10.3. Dissemination approval process

Prior notice of any planned dissemination shall be given to the other Parties at least 30 calendar days before the intended activity, such as publication or presentations, providing a copy of the relevant material at least with 15 calendar days before the intended activity, unless explicitly agreed other deadlines in writing by the concerned Parties. Any objection to the planned publication shall be made in accordance with the GA by written notice to the Coordinator and to the Party or Parties proposing the dissemination within 15 calendar days after receipt of the notice, and 10 calendar days after receipt of the material, unless explicitly agreed other deadlines in writing by the concerned Parties. If no objection is made within the time limit dissemination activity is deemed permitted, in accordance with the notice given.

All dissemination and communication materials must acknowledge the EU support displaying the European flag and the funding statement (co-funded by the European Union) in line with Article 17 of the GA. The emblem is available for download on the POWERBASE SharePoint.

Figure 4. European flag and funding statement

The following disclaimer should be used when acknowledging the funding: "*Funded by the European Union, grant agreement number 101167787. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or European Research Executive Agency (REA). Neither the European Union nor REA can be held responsible for them.*"

10.4. Open access

Article 17 and Annex 5 of the GA sets out detailed legal requirements on open access to scientific publications: under Horizon Europe, each partner must ensure open access to all research outputs, i.e. online access provided free of charge to the end-user immediately upon publication (no embargo period).
In particular, the partners must ensure open access to peer-reviewed scientific publications relating to their results and must ensure that:

- At the latest at the time of publication, a machine-readable electronic copy of the published version or the final peer-reviewed manuscript accepted for publication, is deposited in a trusted repository for scientific publications
- Immediate open access is provided to the deposited publication via the repository, under the latest available version of the Creative Commons Attribution International Public Licence (CC BY) or a licence with equivalent rights; for monographs and other long-text formats, the licence may exclude commercial uses and derivative works (e.g. CC BY-NC, CC BY-ND) and
- Information is given via the repository about any research output or any other tools and instruments needed to validate the conclusions of the scientific publication.

Please note that only publication fees in full open access venues for peer-reviewed scientific publications are eligible for reimbursement. Additionally, partners (or authors) must retain sufficient intellectual property rights to comply with the open access requirements

11. Disclaimer

This PM Handbook has been prepared as guidance document only for the partners of the POWERBASE consortium. The coordination team aims to provide current and accurate information with respect to the EC guidelines, reference documents and regulations. However, the coordination team does not extend any warranty on completeness and accurateness of the information provided in this document. The GA No. 101167787 between the European Commission (REA) and the POWERBASE consortium and the CA between the POWERBASE partners constitute the sole legally binding documents governing the work of the consortium in POWERBASE.

12. Annex 1 – List of deliverables

Deliverables *Grant Preparation (Deliverables screen) — Enter the info. The labels used mean:* *Public — fully open (automatically posted online)* *Sensitive — limited under the conditions of the Grant Agreement* *EU classified —RESTREINT-UE/EU-RESTRICTED, CONFIDENTIEL-UE/EU-CONFIDENTIAL, SECRET-UE/EU-SECRET under Decision 2015/444*						
Deliverable No	**Deliverable Name**	**Work Package No**	**Lead Beneficiary**	**Type**	**Dissemination Level**	**Due Date (month)**
D1.1	Project management handbook	WP1	1 - THW	R — Document, report	PU - Public	2
D2.1	Scenario definition	WP2	7 - ASSR	R — Document, report	PU - Public	3
D2.2	Functional requirement report V1	WP2	2 - AutRC	R — Document, report	PU - Public	5
D2.3	Functional requirement report	WP2	2 - AutRC	R — Document, report	PU - Public	12
D2.4	SOTA report & actors map V1	WP2	9 - Fraunhofer	R — Document, report	PU - Public	5
D2.5	SOTA report & actors map	WP2	9 - Fraunhofer	R — Document, report	PU - Public	12
D3.1	Workshop and Seminar reports	WP3	11 - VIEIRA	R — Document, report	PU - Public	12
D3.2	Report on OMC	WP3	10 - KEMEA	R — Document, report	PU - Public	11
D3.3	Business case and cost analysis	WP3	10 - KEMEA	R — Document, report	PU - Public	11
D3.4	Tender documents	WP3	10 - KEMEA	R — Document, report	SEN - Sensitive	12
D3.5	Procurement strategy document	WP3	11 - VIEIRA	R — Document, report	PU - Public	12
D4.1	Dissemination and communication plan	WP4	12 - ARTTIC	R — Document, report	PU - Public	2
D4.2	Exploitation strategy and plan incl. lessons learnt	WP4	1 - THW	R — Document, report	PU - Public	12
D4.3	Final report on dissemination and communication	WP4	12 - ARTTIC	R — Document, report	PU - Public	12

13. Annex 2 – List of all milestones

Milestones *Grant Preparation (Milestones screen) — Enter the info.*					
Milestone No	**Milestone Name**	**Work Package No**	**Lead Beneficiary**	**Means of Verification**	**Due Date (month)**
1	Project website	WP4	12 - ARTTIC	Project website released	2
2	Scenarios defined	WP2	9 - Fraunhofer	D2.1 Scenario definition	3
3	Validated functional requirements defined, overview of relevant technologies and relevant Suppliers/Industry and RTOs	WP2	9 - Fraunhofer	D2.2 Functional requirement report D2.3 SOTA report & actors map	8
4	OMC successfully concluded	WP3	10 - KEMEA	D3.2 Report on OMC	11
5	Business case and cost analysis defined	WP3	10 - KEMEA	D3.3 Business case and cost analysis	11
6	Tender documents finalized	WP3	10 - KEMEA	D3.4 Tender documents	12
7	4 Training activities delivered	WP3	10 - KEMEA	D3.1 Workshop and webinar report	12

14. Annex 3 – List of all risks

Critical risks & risk management strategy *Grant Preparation (Critical Risks screen) — Enter the info.*			
Risk No	**Description**	**Work Package No(s)**	**Proposed Mitigation Measures**
1	Low POWERBASE stakeholder engagement e.g. end-users might be deployed or EEROs are dormant.	WP3, WP4, WP2, WP1	The hub and spoke strategy for stakeholder engagement will ensure that at least 24 national EROs (8x3) will be involved. PEROs are well contacted and could use international networks e.g. CTIF, Malteser or Johanniter international to replace dormant EEROs
2	Extraordinary circumstances, e.g., pandemic, war etc.	WP3, WP4, WP2, WP1	The consortium acknowledges the unpredictable nature of physical meetings due to corona virus pandemics, hence, it commits – possessing the technical know-how, recent experience and tools in place – to realize if needed all meetings, trainings or even execution of workshops remotely
3	Delayed project start due to delayed staff recruitment	WP3, WP4, WP2, WP1	Project partners must name point-of-contacts already during the GAP phase and will ensure a timely recruitment.
4	Conflict and disagreement among partners during project implementation, requirement definition and requirement validation.	WP2, WP1	The corresponding WPL are experienced in managing and conducting research projects with a wide range of partners. This will enable them effectively to manage potential disagreements, ensuring compromise and agreement by all parties. If this is not enough a mediator will be appointed. POWERBASE builds on open and transparent communication
5	Low or insufficient market involvement.	WP3	Specific attention will be paid to activities raising awareness on the initiative and attracting industry's interest through participation in industry event and networks. OMC promoted and advertised widely.
6	POWERBASE is not aligned with EU core values and citizen expectation.	WP4, WP2, WP1	SELP-I concerns are considered at an early stage and constantly communicated to all partners.

7	Large deviations from the needs of end-users and no common ground for deriving functional requirements	WP3, WP2	Conducting thorough end-user consultations, and iterative design processes to align with user preferences. Open communication and collaborative discussions among all stakeholders are also essential to identify common ground.
8	Low participation of consortium partners in the webinars (webinars' fatigue).	WP3	Previous knowledge gap survey to adapt the training content. Ensure an early scheduling process avoiding agenda constraints. Obtain participants feedback after each training.
9	Advisory board members do not participate in the project.	WP3, WP4, WP2	The Executive Board will exchange dormant advisory members by new ones based on the list compiled during the proposal development phase.