

TD3_Form 2 Technical Proposal - Phase I

Introduction

This tender document (TD) provides the template for the technical proposal of the tender.

The tender documents "TD1_Request for Tenders" and "TD2_The_TurboWave_Challenge" should be read carefully before preparing the answers to the questions in this document. The ranking system for the answers is described in TD1.

Responses must use a minimum Calibri font size of 10pt and respect the stated response limits: **information provided on response limits will not be considered for evaluation.**

Each answer is evaluated solely on the basis of the information provided in the answer to that question. Information provided in answers to other questions will not be considered.

A response should assume that the members of the Evaluation Committee have no prior knowledge of either the bidder or any previous project used as a reference. The members of the Evaluation Committee cannot use any prior knowledge.

Links to websites should not be used and will not be considered for evaluation purposes.

It is recommended not to use general company literature or commercial material as this will not be taken into account for evaluation purposes.

The following structure has been adopted in presenting the sections of this template.

- The first part describes the requirement to be fulfilled.
- This is followed by guidance on the evidence sought to demonstrate compliance with the requirement.
- Finally, the criteria to be used to evaluate the response are presented.

The use of images to support the response is recommended. If used, the image package must be submitted as a separate annex to the technical proposal. The annex will not be considered within the page count limit of this response, but will be subject to the maximum individual file size of 20 MB.

1 Innovation

The proposed conceptual design should incorporate innovations that require Research and Development activities to establish their potential and offer improvements with respect to the state of the art.

Describe the conceptually innovative aspects of the proposed system and its subsystems.

The response can explore how the present design represents a significant improvement over current technologies by referring to the Evaluation Areas proposed in the TD2 challenge description.

Evaluation criteria

- Potential for the innovation(s) to deliver significant improvements to the state of the art.

Weighting: 10%

Response limit: 3 A4 pages

2 Feasibility

2.1 Technical feasibility

2.1.1 Description of the technology

The proposed conceptual design shall provide a credible technical solution to the requirements of the TurboWave challenge.

Describe the proposed conceptual design. The response should explore:

- The underlying operating principles.
- The elements and subsystems that make up the solution.
- A preliminary approach to operations/maintenance strategy.

Evaluation criteria

- Credibility and soundness of the described operating rationale and the proposed conceptual design (8%).
- Credibility of the proposed operation and maintenance strategy (2%).

Weighting: 10%

Response limit: 4 A4 pages

2.1.2 Numerical and physical modelling

Provide an overview of previous numerical and physical modelling work with the proposed concept, indicating the purpose (concept characterisation, performance evaluation, survivability, loading, etc.), the approach to subsystem representation (aerodynamics, mechanical to electrical efficiency, delivery to grid, etc.), and the type operating conditions considered. Identify the technical specifications, standards and protocols that have been used for guidance purposes in the campaigns conducted.

Describe the current simulation capability, indicating the extent to which numerical models have been validated, e.g. using data from physical models/experimental campaigns conducted.

Evaluation criteria

- Relevance of previous numerical and physical modelling work (2%).
- Adequacy of simulation capability (tools and experience in modelling similar or equivalent systems) (2%).

Weighting: 4%

Response limit: 2 A4 pages

2.1.3 Technological risks

The risks and uncertainties associated with the development of the proposed solution design need to be understood and documented, with actions identified to mitigate these challenges and reduce uncertainty.

Actions proposed during Phase I should be aligned with the risk mitigation actions put forward in the proposed evaluation.

Compile an assessment of the main risks and uncertainties associated with the proposed design in its current state of development, in the form of a technology risk register. Present the mitigation measures envisaged to address the challenges and reduce uncertainty.

Use the template TD3_Form 4 TechnologicalRiskEvaluation.xlsx.

Evaluation criteria

- Diversity and adequacy of the range of technological challenges and uncertainties identified (2%).
- Adequacy of the attributed impact and likelihood (1%).
- Adequacy of mitigation measures (1%).

Weighting: 4%

2.4. Vision and strategy for technological development and marketing and management of IIPRs

The proposed solution should be flexible in adapting to different operational contexts.

Identify how to address future market needs or challenges through the proposed solution.

Submit an outline business plan of the strategy and timeline for the further development and commercial exploitation of the results generated in the PCP. The response should describe the target markets, the barriers to market penetration (known or perceived) and how the financial and organisational structures and capacity to deliver a viable product to the identified markets will be established.

Evaluation criteria

- Clarity and suitability of the identification of the target market, its size and characteristics (3 %)
- Feasibility of the technological development plan. (2 %)
- Feasibility of the IIPR marketing and management plan (2 %)

Weighting: 7%

Response limit: 2 A4 pages

3 Responsiveness to the challenge

The solution proposed must be able to respond to the challenge posed, through its five evaluation areas:

- Performance
- Controllability
- Reliability
- Maintainability
- Affordability

Provide a narrative to justify how the proposed solution is able to respond to established functional requirements.

Quantitative targets can be provided for such evaluation areas, where appropriate. Numerical targets should be specific and measurable during the TurboWave programme, indicating and justifying, where appropriate, the baseline value for improvement that has been assumed.

Evaluation criteria

The clarity and completeness of the narrative, the credibility and the degree of fulfilment of the challenge posed in each relevant assessment area shall be assessed:

- Performance (4%)
- Controllability (4%)
- Reliability (4%)
- Maintainability (4%)
- Affordability (4%)

Weighting: 20%

Response limit: 4 A4 pages

4 R&D plan and methodology

4.1 Project team

The proposed team must be able to demonstrate that collectively they have the required knowledge and experience to undertake an innovative R&D project, conducting fundamental research, design development and deployment and testing of a prototype to appropriate quality standards.

The project team is composed of the bidder (sole or main bidder), the other members of the group (consortium) in the case of a joint proposal submission, and the named subcontractors, identified in "TD6_Annex 1 Subcontractor Declaration".

The following must be provided:

- An organisational breakdown structure diagram for the project team.
- A description of the background of each organisation and the relevance of their experience to the project.
- A description of the role and responsibilities of each organisation in the project team.
- For each organisation, profiles of key personnel providing the competencies and skills needed to complete the project.

If you do not wish to specifically identify the companies to which a certain task will be outsourced, provide a description of the role, the competencies and skills required, and the activities to be performed.

Evaluation criteria

- Relevance of key staff competencies and skills for project development (5%).
- Clear role and task identification (2%).

Weighting: 7%

Response limits

- Description of each organisation: **maximum of 1/2 page of A4.**
- Each key personnel profile: **maximum of 1/2 page of A4 per individual.**
- Organisational Breakdown Structure Diagram: **1 page of A4** presented as an Annex.

Additional tables for organisations and rows for key personnel should be added as necessary.

#1	Name of the organisation:		Abbreviation	
	Name of contact:			
Organisation	Description of the organisation, experience for the benefit of the project and role.			
Key personnel	Individual profile and duties in the project.	Country:		
	Individual profile and duties in the project.	Country:		
	Individual profile and duties in the project.	Country:		

4.2 Phase I: Work Plan

Describe the tasks and activities proposed for Phase I, addressing the objectives and expected results for Phase I described in the TD2_The_TurboWave_Challenge tender document, and mitigate the technological risks identified in previous sections.

The proposed scope of work for Phase I should be developed as a set of work packages. The work package information should be presented using the template table provided.

The information provided here will provide the basis for the Phase I project. Information indicated elsewhere in the tender response but not referred to in the scope of work will not be credited towards the scoring of this question.

The response should not contain any price details either in the discussion or in the justification of the tasks proposed.

Each work package description must contain:

- Work package number and title.
 - Work packages should be numbered sequentially as WP01, WP02, etc.
- The organisation leading the work package.
- The effort to be made by each project partner in that work package in person-days.
 - The partner # must correspond to the partner number in the project team.
- The objectives and results of the work package.
 - These should consider the requirements for Phase I.
 - Additional objectives specific to the implementation of the project may be specified.
- A description of the proposed activities to be conducted.
 - Activities must be proposed within Phase I that will enable the project to deliver the objectives and results of Phase I and the results of the phase proposed by the bidder.
 - Highlight all proposed core activities and the partner who will be responsible for delivering them.

- Provide details to enable an understanding of how and what will be completed within the activities.
- The results within Phase I of the work package.
 - These should consider the general results of Phase I (as indicated in document PG102) and the additional results specific to the technical developments and risks associated with this project.
 - The results of Phase I must be specific and measurable to enable Phase I to be considered a success.
- Justification of the proposed activities.
 - This should be supported by reference to the work package objectives and deliverables, interdependent activities, staff effort, and the challenges and mitigation actions detailed in the technology risk register.

Scoring criteria

The scope of work for Phase I will be assessed under the subheadings:

a) Proposed activities – **Weighting: 9%.**

- Clarity of proposed activities and allocation of responsibilities (3%).
- Convenience of the specific results proposed (3%).
- Credibility of the justification of how the proposed activities and work packages will address the Phase I objectives, mitigate technological risks and deliver the specified Phase I results (2%).
- Adequacy of the partners' effort to carry out the proposed activities (1%).

Response limit: 15 A4 pages

WP	Title							WP Leader		
Partner #	1	2	3	4	5	6	7	8	9	10
Effort (days)										
Partner #	11	12	13	14	15	16	17	18	19	20
Effort (days)										
Objectives										
Activities										
Results of the phase										
Justification of objectives, risks and results of the phase										

4.3 Phase I: Deliverables

A series of deliverables will be required to provide evidence of the design work carried out and the main conclusions of the tasks and activities proposed for Phase I.

The following table must be completed, indicating the products of the project to be submitted to

the contracting authorities (the "Deliverables"). The information requested includes:

- A unique identifier (the 'ID') for each deliverable, numbered sequentially as D01, D02, D03, etc. in the proposed order of submission within the project.
- The proposed title of the deliverable (the "Name").
- The presentation format ('Format'), indicating e.g. report, data, presentation, etc.
- Which work package and task is associated with the production of the output ('Work Package').
- The date of dispatch (the "Delivery Date").
- The proposed content of the deliverable (the "Description").

The response should not contain any price details.

Additional rows can be added to the table as required.

Evaluation criteria

- Adequacy and clarity of the deliverable structure to demonstrate the work done and the results obtained (5%).

Weighting: 5%

[illegible]

4.4 Schedule

The proposed schedule for Phase I must be realistic and achievable.

Provide the work breakdown structure (WBS) and project schedule for Phase I, such as a Gantt chart or similar. The WBS and schedule should be sufficiently detailed to identify interdependencies, the critical path and allow the flow of work to be assessed. Key project milestones should be identified.

The project timeline must use a schedule relating to the start of the project and be presented in pdf format (legible on a **page size no larger than A3**).

Evaluation criteria

- Clarity of the structure and adequacy of detail in the project schedule (2%).

Weighting: 2%

4.5 Methodology

The project must deploy a robust project management plan with appropriate processes and tools to monitor and evaluate the performance of the contract to ensure delivery of planned results to budget, schedule and quality. Responsibility for project management is clearly identified.

Provide a description of the project management methodology and methods covering, amongst others, aspects such as:

- Project governance.
- Quality assurance.
- Risk management.
- Change management.
- Internal management (monitoring and communication with project team members).
- External reports.

Evaluation criteria

- Clarity and effectiveness of the proposed strategy (1%).
- Clarity of project management responsibility (1%).

Weighting: 2%

Response limit: 2 A4 pages