**Application for a research project as part of the first edition of the ENERGYTECHDEMO competition**

**of the Research Centre for POB Energy Conversion and Storage**

1. **KEY DATA**
2. Data of the applicant (head of the project):

First name, surname, academic title/degree, position, place of employment, represented scientific discipline in which the applicant is included in the N number

1. A list of research teams:
   1. First research team:

- Faculty of the Warsaw University of Technology

- First name and surname of the head of the team, academic title/degree, position, place of employment, represented scientific discipline in which the applicant is included in the N number

- A list of names of key implementers *(*first name, surname, academic title/degree, position, place of employment, represented scientific discipline)

- Information about the number of other implementers including their status (e.g. doctoral students - 3 persons)

* 1. Second research team:

- Faculty of the Warsaw University of Technology

- First name and surname of the head of the team, academic title/degree, position, place of employment, represented scientific discipline in which the applicant is included in the N number

- A list of names of key implementers *(*first name, surname, academic title/degree, position, place of employment, represented scientific discipline)

* 1. - Information about the number of other implementers including their status (e.g. doctoral students - 3 persons)

1. Third research team:

- Faculty of the Warsaw University of Technology

- First name and surname of the head of the team, academic title/degree, position, place of employment, represented scientific discipline in which the applicant is included in the N number

- A list of names of key implementers *(*first name, surname, academic title/degree, position, place of employment, represented scientific discipline)

- Information about the number of other implementers including their status (e.g. doctoral students - 3 persons

1. Project title: in Polish and English
2. Project summary in Polish (up to 400 words)
3. Project summary in English (up to 400 words)
4. **PROJECT DESCRIPTION**
5. Project objective

(Please provide a brief description of the planned objective to be achieved as a result of the project implementation; **up to ½ of a page, font 11 pt.**)

1. Description of product/process innovation planned to be developed as part of the project
2. Innovation type: product innovation/process innovation

(Please choose as appropriate)

1. Description of innovation

(Please demonstrate that the outcome of the project, i.e. the innovation demonstrator, is characterised by novelty at least on the Polish market scale, which means it differs significantly from products (products or services) or processes available on the Polish market in terms of its new features and functionalities. Describe these key features or functionalities that determine its advantage in relation to the current (own - if it is the best on the market or competitive) offer on the market. Indicate the product/process to which you are comparing yourself (In the case of a product, please provide its name and manufacturer. In the case of a process, please provide its name and indicate where it is used); **up to 3 pages, font 11 pt.**)

1. Indices regarding the features/functionality of the product innovation/process innovation

(Please provide at least one and up to five indices with which you have identified new functionalities and features of the innovation of the researched one in comparison to solutions available on the market. Each key functionality/feature stated in the innovation description must be reflected in the form of a numerical index with a value no less than that of the solution available on the market to which the applicant refers.)

- Index name:

- Measurement unit:

- Base value:

(The value of a given feature/functionality in a commercially available product/process to which the innovation level of the product/process applies.)

- Target value:

(The value to be achieved as part of the project.)

- Description of the methodology of calculating the indicator and how the achievement of the planned indicator values will be verified:

(The index must have a measurable and verifiable value at the end of the project.)

1. Market demand for innovation

(Please identify the main groups of recipients of the project outcome.

Characterise those groups, referring to such of their characteristics that are important for the possibility of implementing the innovation. Please refer specifically to their size/number, needs, expectations, preferences, and capabilities.

Characterise the target group as narrowly as possible. Focus on the needs of the recipients directly interested in the product in question.

**Up to 1 page, font 11 pt.**)

1. Research plan
2. Timetable of project implementation

(Please describe what the starting point for developing the demonstrator is - the technology and solutions you have.

Describe the research plan - the tasks - you intend to undertake to develop the demonstrator, with a breakdown of the alliance members.

Please provide the technical parameters of the demonstrator.

Describe how you will verify the achievement of the indices on the features/functionality of the product innovation/process innovation.

**Up to 3 pages, font 11 pt.**)

1. Declared TRL level of the demonstrator: 6/7/8

(Choose as appropriate.

TRL 6: - A demonstration of a prototype or model of a system or technology subsystem under near real-world conditions was performed. Research at this level includes tests of a prototype under laboratory conditions replicating real-world conditions with high fidelity or under simulated operational conditions.

TRL 7: A demonstration of the technology prototype under operational conditions was made. The prototype is almost at an operational system level. This level represents a significant advance on Level 6 and requires demonstration that the technology under development is operationally feasible. Research at this level includes tests of prototypes on the so-called research platforms.

TRL 8: Research and demonstration of the final form of the technology was completed. This means that it is confirmed that the target level of the technology is achieved, and the technology can be used under the conditions anticipated for it. This level practically represents the end of the demonstration.)

1. Integration of the demonstrator into the infrastructure of the Warsaw University of Technology

(Please describe if and how you plan to integrate the demonstrator into the infrastructure of the Warsaw University of Technology.

**Up to ½ of a page, font 11 pt.**)

1. Declaration of measurable outcomes of the implementation of the research project

Obligatory indices:

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Type of outcome | Declared value  (0/1) | Comments  (e.g. type and date of the competition in which the grant application will be submitted) |
| 1 | Submission of an application for external funding, including with an industrial partner or leading foreign universities and/or scientific institutions, which has passed at least a formal evaluation, preferably as part of an international programme, for an amount of at least twice the funds obtained under the POB grant |  |  |
| 2 | Establishment of cooperation with industrial partners culminating in obtaining funding for research in the form of a research contract in accordance with Regulation No. 143/2020 of the Rector of the Warsaw University of Technology of 20 November 2020 for the minimum amount of funds obtained under the POB grant |  |  |
| 3 | Granting a licence for the use of the invention/know-how of the developed product or process innovation for a minimum amount of the funds obtained under the POB grant for a calculation period of up to 10 years from the date of completion of the POB grant |  |  |

Optional indices:

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Type of outcome | Declared value | Comments  (e.g. a succinct description of the outcome nature, including patents, information about the type and number of publications, and planned journals) |
| 1 | Declared number of publications of papers in scientific journals from the upper decile according to CiteScore of the Scopus database or reviewed conference publications for min. 200 points from the current list of the Ministry of Science and Higher Education (MNiSW)) (at least acceptance of the paper for publication is required) including international cooperation |  |  |
| 2 | Establishment or development of cooperation with leading foreign universities and/or scientific institutions culminating in scientific publications in international cooperation (not included in item 1; at least acceptance of the paper for publication is required) |  |  |
| 3 | Submission of a patent application for the developed product or process innovation |  |  |
| 4 | Integration of the demonstrator into the infrastructure of the Warsaw University of Technology |  |  |

1. The scientific output of the head of the project:

(Data of the head for 2019-2023 **(up to 1 page)**, including:

- A list of best publications, up to 5

- A list of current projects, indicating the functions performed in them

- A list of completed projects in which the applicant was the head

- The cooperation with the economic environment, including a list of implementations)

1. The scientific output of members of the first research team:
2. The scientific output of the head of the project:

(Data for 2019-2023 **(up to ½ of a page)**, including:

- A list of best publications, up to 5

- The cooperation with the economic environment, including a list of implementations)

1. The scientific characteristics of the key implementers

**(up to ½ of a page)**

1. The scientific output of members of the second research team:
2. The scientific output of the head of the project:

(Data for 2019-2023 **(up to ½ of a page)**, including:

- A list of best publications, up to 5

- The cooperation with the economic environment, including a list of implementations)

1. The scientific characteristics of key implementers

**(up to ½ of a page)**

1. The scientific output of members of the second research team:
2. The scientific output of the head of the project:

(Data for 2019-2023 **(up to ½ of a page)**, including:

- A list of best publications, up to 5

- The cooperation with the economic environment, including a list of implementations)

1. The scientific characteristics of key implementers

**(up to ½ of a page)**

1. Information on possible ethical issues arising in the planned research.

**(up to ½ of a page)**

**I declare that the research planned in the application is not and has not been financed from other sources.**

**By submitting this application, I acknowledge that, if funding is granted, the name of the head of the project, as well as the title of the project, will be made public in the competition information and result.**

1. **DECLARATIONS OF APPLICANT**
2. I declare that I am employed at the Warsaw University of Technology as my primary place of employment.
3. I declare that I have submitted a declaration of assignment to the N number to the Warsaw University of Technology.
4. I declare that I am not the head of the project that was awarded research grants in any of the competitions of the IDUB programme and whose deadline for implementation expired before 30 November 2023 and that did not achieve the assumed outcomes of the project.
5. I declare that I submitted only one application in the first edition of the ENERGYTECHDEMO competition of the POB Research Centre for Energy Conversion and Storage.

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(signature of applicant) (stamp and signature of head of unit)

**Project timetable and cost estimate (in accordance with the template – Table 1 or 1a) including the justification for direct costs of the project**

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| **Project timetable – please provide a list of tasks for individual units including the time slot for the task implementation** |
|  |

Table 1: Project cost estimate for two research teams from two WUT units\*

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Planned costs** | | **2024** | | | **2025** | | | **Total** | | |
| **Unit 1** | **Unit 2** | **Total** | **Unit 1** | **Unit 2** | **Total** | **Unit 1** | **Unit 2** | **Total** |
| **I.** | **Total direct costs** | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | Equipment | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | including | with a value from PLN od 3,500 to PLN 10,000 |  |  | 0.00 |  |  | 0.00 | 0.00 | 0.00 | 0.00 |
|  | with a value over PLN 10,000 |  |  | 0.00 |  |  | 0.00 | 0.00 | 0.00 | 0.00 |
| 2 | Remuneration with related items | |  |  | 0.00 |  |  | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Other direct costs | |  |  | 0.00 |  |  | 0.00 | 0.00 | 0.00 | 0.00 |
| **II.** | **Indirect costs** *(15%)* | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **III.** | **Total costs** | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

Table 1a: Project cost estimate for three research teams from three WUT units\*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **No.** | **Planned costs** | | **2024** | | | | **2025** | | | | **Total** | | | |
| **Unit 1** | **Unit 2** | **Unit 3** | **Total** | **Unit 1** | **Unit 2** | **Unit 3** | **Total** | **Unit 1** | **Unit 2** | **Unit 3** | **Total** |
| **I.** | **Total direct costs** | | **I.** | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1 | Equipment | |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | including | with a value from PLN od 3,500 to PLN 10,000 |  |  |  | 0.00 |  |  |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
|  | with a value over PLN 10,000 |  |  |  | 0.00 |  |  |  | 0.00 | 0.00 | 0.00 |  | 0.00 |
| 2 | Remuneration with related items | |  |  |  | 0.00 |  |  |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 3 | Other direct costs | |  |  |  | 0.00 |  |  |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **II.** | **Indirect costs** *(15%)* | |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **III.** | **Total costs** | |  | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |

\*Choose the appropriate table

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| **Substantive justification for item I – please justify costs of remuneration, purchase of equipment and materials for individual units** |
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(signature of applicant)

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(stamp and signature of Bursar’s representative) (stamp and signature of head of unit)